PROCEEDINGS

OF THE

CALIFORNIA ACADEMY OF SCIENCES

FOURTH SERIES

VOL. XIX, No. 13, pp. 399-410, AND No. 14, pp. 411-482 MAY 29, 1931

XIII

Report of the President of the Academy for the Year 1930

BY

C. E. GRUNSKY

President of the Academy

XIV

Report of the Director of the Museum and of the Aquarium for the Year 1930

BY

BARTON WARREN EVERMANN

Director of the Museum and of the Aquarium

SAN FRANCISCO

PUBLISHED BY THE ACADEMY

1931

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PROCEEDINGS

OF THE

CALIFORNIA ACADEMY OF SCIENCES

FOURTH SERIES

VOL. XIX, No. 13, pp. 399-410 MAY 29, 1931

XIII

REPORT OF THE PRESIDENT OF THE ACADEMY FOR THE YEAR 1930

BY

C. E. GRUNSKY

President of the Academy

Following the usual practice, attention will first be directed in this report to the Academy's membership. There has been but little change in the total, despite the fact that a special effort brought in about 150 new members.

The members are classified as follows:

Patrons	19
Honorary Members	15
Life Members	94
Fellows	63
Members	923
Junior Members	10
Total	1124

Of these:

7 Life Members are also Fellows	7
4 Patrons are also Life Members	4
1 Fellow is also an Honorary Member	1
3 Fellows are also Patrons	3
1 Patron is not a member	1
Total	16
Actual Membership	1108

On January 1, 1930, the number of members stood at		1086
New Members were added during the year	150	
Members lost by death	27	
Members resigned	43	
Members dropped (non-payment of dues)	58	
		128
Net gain during year		22
Leaving the membership on January 1, 1931, at		1108

The Academy carries on its list of benefactors the following names:

Deceased

Mr. James Lick
Mr. Ignatz Steinhart

The Academy carries on its list of patrons the following names:

Living

Mr. George C. Beckley
Dr. Frank E. Blaisdell
Mr. William B. Bourn
Hon. William H. Crocker
Mr. Peter F. Dunne
Miss Alice Eastwood
Dr. Barton Warren Evermann
Mr. Herbert Fleishhacker
Hon. Joseph D. Grant
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Mr. John W. Mailliard
Mr. Joseph Mailliard
Mr. M. Hall McAllister
Mr. G. Frean Morcom
Mr. William C. Van Antwerp
Mr. Edward P. Van Duzee
Dr. E. C. Van Dyke

Deceased

Mr. William Alvord
Mr. Charles Crocker
Mr. W. M. Giffard
Mr. John W. Hendrie
Mr. William F. Herrin
Mr. Henry M. Holbrook
Mrs. Charlotte Hosmer
Mr. Ogden Mills
Mr. Alexander F. Morrison
Mr. Amariah Pierce
Dr. John Van Denburgh

Academy members who were called by death in 1930 are as follows:

Dr. Thomas Addison	Member	April 5, 1930
Mr. Harry Babcock	Member	February 24, 1930
Mr. Robert C. Bolton	Member	August 25, 1930
Mr. Elisha Brooks	Life Member	May 11, 1930
Mr. James F. Campbell	Member	January 3, 1930
Mr. Warren D. Clark	Member	May 9, 1930
Prof. John N. Cobb	Member	January 13, 1930
Dr. Lawrence A. Draper	Member	January 3, 1930
Mr. A. L. Duncan	Member	August 19, 1930
Col. George C. Edwards	Life Member	November 19, 1930
Mr. A. W. Foster	Member	October 14, 1930
Mr. Wm. J. Gilliland	Member	November 30, 1929
Mr. William Herrmann	Member	September 30, 1930
Mr. Leonard Howarth	Member	May 12, 1930
Mr. W. B. Lewis	Member	August 26, 1930
Mr. A. S. Mangrum	Member	September 3, 1930
Mr. Stephen T. Mather	Member	January 22, 1930
Dr. William D. Matthew	Member	September 24, 1930
Mr. Robert S. Moore	Member	February 16, 1930
Mr. John Partridge	Member	August 14, 1930
Capt. Albert H. Payson	Member	January 25, 1930
Hon. James D. Phelan	Life Member	August 7, 1930
Mr. G. P. Rixford	Life Member	October 27, 1930
Mr. J. H. Skinner	Member	June 12, 1930
Mr. William H. Talbot	Member	November 5, 1930
Mr. John I. Walter	Member	March 5, 1930
Dr. Lucy M. F. Wanzer	Life Member	October 20, 1930

In the year 1930, eleven free lectures were delivered at the stated meetings of the Academy, as follows:

JANUARY 2. "The Horsetown Formation of California." By Mr. Frank M. Anderson, Honorary Curator, Department of Paleontology, California Academy of Sciences.

MARCH 5. "A Sub-arctic Summer." Illustrated. By Mr. Harry S. Swarth, Curator, Department of Ornithology and Mammalogy, California Academy of Sciences.

APRIL 2. "A Visit to the Desert and Forests of Australia." Illustrated with motion pictures. By Mr. Joseph R. Slevin, Curator, Department of Herpetology, California Academy of Sciences.

MAY 7. "A Panamanian Pasear." Illustrated. By Mrs. M. E. McLellan Davidson, Assistant Curator, Department of Ornithology and Mammalogy, California Academy of Sciences.

JUNE 4. "Bird Banding." By Mr. Joseph Mailliard, Curator Emeritus, Department of Ornithology and Mammalogy, California Academy of Sciences.

JULY 2. "Flags." Illustrated. By Mr. C. B. Lastreto, San Francisco.

AUGUST 6. "The Proposed Salt Water Barrier in the Upper Bay Waters." By Dr. C. E. Grunsky, President, California Academy of Sciences.

SEPTEMBER 3. "Floral Zones of the California Deserts." Illustrated. By Mr. John Thomas Howell, Assistant, Department of Botany, California Academy of Sciences.

OCTOBER 1. "Seventh International Ornithological Congress, Amsterdam." By Mr. Harry S. Swarth, Curator, Department of Ornithology and Mammalogy, California Academy of Sciences.

NOVEMBER 5. "Our South Sea Islands." Illustrated by motion pictures and stereopticon slides. By Mr. Alvin Seale, Superintendent of the Steinhart Aquarium of the California Academy of Sciences.

DECEMBER 3. "A Report on My Trip to the International Botanical Congress." Illustrated. By Miss Alice Eastwood, Curator, Department of Botany, California Academy of Sciences.

The Sunday afternoon lectures at the Museum building were continued throughout the year except during the vacation months of summer. Despite the inadequacy of the temporary lecture room, the attendance at these lectures has been satisfactory. These lectures have included the following:

JANUARY 5. "With a Moving Picture Camera in Africa." Illustrated. By Dr. E. C. Franklin, Professor of Organic Chemistry, Stanford University.

JANUARY 12. "East Winds." By Mr. E. A. Beals, Consulting Meteorologist, Alameda, California.

JANUARY 19. "Aviation and Meteorology." Illustrated. By Mr. D. R. Reed, Assistant Forecaster, United States Weather Bureau, San Francisco.

JANUARY 26. "The Climate of the Pacific Northwest." By Mr. Melvin B. Summers, in charge of the Seattle Weather Bureau and Climatological Service of the State of Washington. At present with the San Francisco office.

FEBRUARY 2. "Indians of Yosemite and Their Legends." Illustrated. By Mr. Ansel F. Hall, Chief Naturalist, National Park Service.

FEBRUARY 9. "Geology of the Lassen Region." Illustrated. By Mr. Harold Stein, Field Executive, Boy Scouts of America, San Francisco.

FEBRUARY 16. "Personal Experiences with Black and Grizzly Bears." Illustrated. By Mr. Joseph Dixon, Economic Mammalogist, Univeristy of California, Berkeley.

FEBRUARY 23. "Prehistoric Peoples of the Southwest." Illustrated. By Mr. Ansel F. Hall, Chief Naturalist, National Park Service.

MARCH 2. "An Engineer's Trip to Japan and Adjacent Countries." By Dr. C. E. Grunsky, President of the California Academy of Sciences.

MARCH 9. "Desert Insects." Illustrated. By Dr. E. C. Van Dyke, Curator Emeritus, Department of Entomology, California Academy of Sciences.

MARCH 16. "Some Problems in Game Conservation." Illustrated with motion pictures. By Dr. H. C. Bryant, Director, Bureau of Education, California Division of Fish and Game.

MARCH 23. "The Amphibians of California." Illustrated. By Dr. Tracy I. Storer, Associate Professor of Zoology, University of California, College of Agriculture, Davis, California.

MARCH 30. "Game Trails; Steelhead Fishing on the Klamath." Illustrated. By Mr. Paul Fair, in Charge of Exhibits, United States Forest Service, San Francisco.

APRIL 6. "Tumors." By Dr. William Ophuls, Dean of the School of Medicine and Professor of Pathology, Stanford University School of Medicine.

APRIL 13. "Recent Advances in Public Health." By Dr. Herbert F. True, Assistant Health Officer, City and County of San Francisco.

APRIL 20. "Trichinosis and Its Prevention." By Dr. Karl F. Meyer, Director of the Hooper Foundation, University of California Medical School.

APRIL 27. "The High Cost of Quackery." By Dr. E. L. Gilcreest, Instructor in Surgery, University of California Medical School.

MAY 4. "General Aspects of Tuberculosis." By Dr. Robert A. Peers, Member of the California Department of Public Health.

MAY 11. "Pain." By Dr. John Homer Woolsey, Assistant Clinical Professor of Surgery, University of California Medical School.

MAY 18. "The Cost of Being Sick." By Dr. Morton R. Gibbons, Lecturer on Medical Aspects of Insurance, University of California Medical School.

OCTOBER 5. "Fur Seals: A Million Dollar Business." Illustrated. By Dr. George Haley, Professor of Biology, St. Ignatius College, San Francisco.

OCTOBER 12. "Control of Predatory Mammals." Illustrated. By Dr. E. Raymond Hall, Curator of Mammals, California Museum of Vertebrate Zoology, University of California.

OCTOBER 19. "George Washington's First Wish." By Mr. Edward Berwick, Pacific Grove, California.

OCTOBER 26. "The Way Wild Animals Do Things." Illustrated. By Dr. W. E. Ritter, Professor of Zoology, Emeritus, Scripps Institution of Oceanography, La Jolla, California.

NOVEMBER 2. "California Floral Zones." Illustrated. By Mr. John Thomas Howell, Assistant, Department of Botany, California Academy of Sciences.

NOVEMBER 9. "Game Birds of California." Illustrated. By Mr. Donald McLean, Field Naturalist, California Fish and Game Commission.

NOVEMBER 16. "African Big Game." Illustrated. By Mr. N. B. Livermore. Member Board of Trustees, California Academy of Sciences, San Francisco.

NOVEMBER 23. "Our National Parks." Illustrated. By Colonel John R. White, Superintendent, Sequoia National Park, California.

NOVEMBER 30. "Reptiles and Amphibians, with especial Reference to the Rattlesnakes of California." Illustrated with motion pictures and stereopticon slides. By Mr. Joseph R. Slevin, Curator, Department of Herpetology, California Academy of Sciences.

DECEMBER 7. "A New Conception of Health Insurance as it vitally concerns the general public." Illustrated. By Dr. Ralph A. Reynolds, San Francisco.

DECEMBER 14. "The Mountains and Canyons of the Sequoia National Park." Illustrated. By Mr. Francis P. Farquhar, Secretary Commonwealth Club, San Francisco.

DECEMBER 21. "The Animal Kingdom: The Reservoir of Disease." Illustrated. By Dr. Karl F. Meyer, Director of the Hooper Foundation, University of California Medical School.

DECEMBER 28. "The Natural History of Magpies." Illustrated. By Dr. J. M. Linsdale, Research Associate in the Museum of Vertebrate Zoology, University of California.

LIST OF ACADEMY PUBLICATIONS IN 1930

PROCEEDINGS, FOURTH SERIES

Vol. XVIII, Nos. 17 and 18, pp. 531-586. No. 17—REPORT OF THE PRESIDENT OF THE ACADEMY FOR THE YEAR 1929, by C. E. Grunsky. No. 18—REPORT OF THE DIRECTOR OF THE MUSEUM AND OF THE AQUARIUM FOR THE YEAR 1929, by Barton Warren Evermann. (Issued April 8, 1930.)

Vol. XIX, Nos. 1, 2 and 3, pp. 1-22. No. 1, pp. 1-6—MARINE MOLLUSCA OF GUADALUPE ISLAND, MEXICO, by A. M. Strong and G. D. Hanna. No. 2, pp. 7-12—MARINE MOLLUSKA OF THE REVILLAGIGEDO ISLANDS, MEXICO, by A. M. Strong and G. D. Hanna. No. 3, pp. 13-22—MARINE MOLLUSCA OF THE TRES MARIAS ISLANDS, MEXICO, by A. M. Strong and G. D. Hanna. (Issued June 4, 1930.)

Vol. XIX, Nos. 4 and 5, pp. 23-56, plates 1-3, 4 text figs. No. 4, pp. 23-40, plate 1, 4 text figures—SOME RISSOID MOLLUSCA FROM THE GULF OF CALIFORNIA, by Fred Baker, G. D. Hanna and A. M. Strong. No. 5, pp. 41-56, plates 2-3—SOME MOLLUSCA OF THE FAMILY EPITONIIDAE FROM THE GULF OF CALIFORNIA, by Fred Baker, G. D. Hanna and A. M. Strong. (Issued July 15, 1930.)

Vol. XIX, No. 6, pp. 57-64—PLIOCENE DEPOSITS NORTH OF SIMI VALLEY, CALIFORNIA, by W. P. Woodring. (Issued July 15, 1930.)

Vol. XIX, No. 7, pp. 65-83, 3 text figs.—GEOLOGY OF SHARKTOOTH HILL, KERN COUNTY, CALIFORNIA, by G. Dallas Hanna. (Issued July 15, 1930.)

Vol. XIX, No. 8, pp. 85-93, 7 text figures—FOSSIL BIRD REMAINS FROM THE TEMBLOR FORMATION NEAR BAKERSFIELD, CALIFORNIA, by Alexander Wetmore. (Issued July 15, 1930.)

Vol. XIX, No. 9, pp. 95-104, 1 text figure—THE KILLIFISH OF SAN IGNACIO AND THE STICKLEBACK OF SAN RAMON, LOWER CALIFORNIA, by George Sprague Myers. (Issued July 15, 1930.)

Vol. XIX, No. 10, pp. 105-108—CONTRIBUTIONS TO ORIENTAL HERPETOLOGY IV. HOKUSHU OR YEZO, by Joseph R. Slevin. (Issued July 15, 1930.)

Vol. XIX, No. 11, pp. 109-215, plates 4-15—MARINE ALGAE OF THE REVILLAGIGEDO ISLANDS EXPEDITION IN 1925, by William Albert Setchell and Nathaniel Lyon Gardner. (Issued December 30, 1930.)

HANDBOOK OF THE BIRDS OF GOLDEN GATE PARK, SAN FRANCISCO, by Joseph Mailliard.

ITEMS OF INTEREST

Some notable changes have occurred in the personnel of the Officers of the Academy. Mr. M. Hall McAllister resigned as Treasurer on July 1, 1930. In accepting his resignation, the Board of Trustees passed the following resolution:

> "In accepting the resignation of Mr. M. Hall McAllister as a Trustee of the California Academy of Sciences, the Board does so with very great regret and feelings of real loss. During Mr. McAllister's many years of service as a member of the Board, he was ever watchful of the best interests of the Academy. His services as Trustee and Treasurer were of the greatest help to the institution and the Board wishes to express its high appreciation of his deep interest in the welfare of the Academy."

Mr. F. W. Bradley was appointed to fill the unexpired term.

It is also to be noted that after long and faithful service beginning January 6, 1902, Mr. J. W. Hobson retired at his own request from the office of Recording Secretary. His services in this capacity terminated on February 19, 1930. It was with sincere regret that his associates on the Council saw his relinquishment, owing to physical disability, of the duties he had so long performed. His place has been filled by Mrs. J. W. Hobson, who had for some time been assisting Mr. Hobson in the keeping of records and other work connected with the office.

On October 27, 1930, the Academy lost, by death, Gulian Pickering Rixford, for many years a member of the Academy, one time its Recording Secretary, and at the time of his death, Librarian since December 24, 1924. The vacancy caused by Mr. Rixford's death was filled by his son, Dr. Emmet Rixford.

On November 19, the Academy lost, by death, Colonel George Cunningham Edwards, also for many years a member and First Vice-President since January 21, 1907.

Second Vice-President, Otto von Geldern, was appointed to fill the vacancy in the office of First Vice-President, and Dr. Wm. E. Ritter was appointed Second Vice-President.

Donations to the publication fund to be used in the publication of a handbook on the Birds of Golden Gate Park, by Joseph Mailliard, have been made during the year as follows:

Mrs. F. W. Bradley (Mary Parks Bradley)	$200
Mr. Selah Chamberlain	200
Mr. William H. Crocker	200
Mr. Herbert Fleishhacker	200
Mr. J. D. Grant	200
Mr. Chas. Kendrick	200
Mr. Edward J. McCutcheon	250
Mr. Louis F. Monteagle	200

A donation of $1,200 to the Department of Botany was made by Miss Alice Eastwood, Curator of that Department. By reason of this donation, Miss Eastwood became a Patron of the Academy.

Mr. McAllister has again contributed the sum of $100 to the Committee on the Conservation of Wild Life, of which he is Chairman. For some years past he has made a like annual contribution.

The Academy, some time ago, expressed its willingness to cooperate with the Seismological Society of America and has now allotted definite space in the basement of the museum building for the installation of a seismograph. When this is installed the Academy will provide the necessary observer. The installation is being made without cost to the Academy.

Several months ago a representative of Karl Zeiss and Company was in San Francisco to awaken interest in the erection of a Planetarium. The apparatus for a planetarium such

as the Adler Zeiss Planetarium of Chicago, the Fels Zeiss Planetarium of Philadelphia and the Griffith Zeiss Planetarium of Los Angeles, the latter about to be erected, is manufactured and furnished by the Zeiss Company. While no progress appears to have been made in enlisting financial support for this project, opportunity was nevertheless afforded to the Academy to express its interest in the matter and to offer to accept the management of the planetarium if the same be located on some site convenient to the buildings of the Academy in Golden Gate Park.

The popularity of the Steinhart Aquarium has not waned. On Saturdays, Sundays, and holidays, the Aquarium is frequently over-crowded. More floor space is needed for the convenience of visitors and much more tank space is needed for additional material. The aquarium at San Francisco should be second to no other aquarium in this country. Appreciating this fact, an appeal was made to the city authorities several months ago for funds, in the amount of $750,000, for an extension to the aquarium. This sum would suffice to treble the floor and tank space. It would be a gracious act on the part of the City either out of current funds or by means of a bond issue to provide the money now needed for the enlargement of the Steinhart Aquarium. It is hoped that this view will prevail.

The Academy is about to begin the erection of the first unit of an East Wing in which the Leslie Simson African Mammal collection is to be installed. Material for the exhibits sent from Africa by Mr. Simson is arriving from time to time. Our Curator of Exhibits, Mr. Tose, has recently returned from Africa where he collected material for accessories and made color sketches of the habitats of the wild life which is to be put on display. But here, as in the case of so many of the Academy's activities, not all can be done which should be done. There is a sore lack of funds with which to erect adequate buildings. In the circumstances the Academy has felt impelled to have recourse to its credit and has borrowed some $255,000 with which to begin the erection of its East Wing. While this entails a large annual outgo for interest, yet it appears fully justified in view of the fact that Mr. Simson has himself turned over to the Academy, or rather has placed

in escrow, property having an aggregate value of about $150,000, which will offset in some measure the Academy's proximate outlay of capital. While this sum stands as the property of the Academy, the income therefrom must go to Mr. Simson during his lifetime.

In its present quarters the Academy has insufficient space. The collections are expanding in its various departments and even passageways are being over-stocked with cases of research material. In view of this fact and because of the urgent need of extending research activities, the officers of the Academy made an appeal to the Rockefeller Foundation for funds with which to erect all of the proposed East Wing except only the Auditorium. This application has quite recently been denied. Building activities will, therefore, have to be restricted to the first unit, for a time at least, until some one comes to the Academy's aid with an adequate endowment or bequest.

Plans for the East Wing of the Academy have been prepared by Architect Lewis P. Hobart. These had been sufficiently advanced a few weeks ago to permit calling for bids to construct the first unit thereof, which is urgently needed both for the housing of the African mammal exhibits as explained, and for the expansion of the Academy's research activities.

Satisfactory proposals having now been received, it is expected that before the end of this year the building will be available for occupancy.

In this connection a word relating to the finances of the Academy will not be out of place.

The book value of the assets of the Academy appears at $2,143,629. At the time of the completion of the West Wing of its buildings in Golden Gate Park in 1916, the Academy was in debt about $350,000. This indebtedness was gradually reduced to $195,000 at which amount it stood when the new loan was made a short time ago for present building purposes, which, in the course of the current year, will bring the total indebtedness to $450,000. But as already explained, the increased indebtedness is in part offset by the property received from Mr. Simson and now in escrow for the Academy.

The valuable work being done in the Academy's departments will appear from the several reports of the Director of the Museum, of the Curators of the various departments, and of the Superintendent of the Aquarium. To all of those who have in any way contributed to the Academy's activities, I desire on behalf of our membership for whom I am speaking, to express sincere appreciation. This extends, too, to the services of Attorney Edward Hohfeld who has ever been ready to assist with advice when called upon.

In looking back over the year's activities, some progress is to be noted, but the Academy is still waiting and hoping for an endowment of sufficient magnitude to place it where it belongs,—well up in the front rank of like institutions elsewhere in the world.

PROCEEDINGS

OF THE

CALIFORNIA ACADEMY OF SCIENCES

FOURTH SERIES

VOL. XIX, No. 14, pp. 411-482 MAY 29, 1931

XIV

REPORT OF THE DIRECTOR OF THE MUSEUM AND OF THE AQUARIUM FOR THE YEAR 1930

BY

BARTON WARREN EVERMANN

Director of the Museum and of the Aquarium

The Annual Report of the Director for the year 1929 was presented to the Academy at the Annual Meeting, February 19, 1930. The present report, submitted at this Annual Meeting, February 19, 1931, sets forth briefly the scientific and educational activities of the Academy for the calendar year 1930.

PERSONNEL

The employees of the Museum as of January 1, 1931, were as follows: Dr. Barton Warren Evermann, Director and Executive Curator of the Museum and of the Aquarium, and Editor of the Academy publications; Susie M. Peers, Secretary to the Board of Trustees; Annie G. Hobson, Recording Secretary of the Academy; Alice Eastwood, Curator, John Thomas Howell, Assistant Curator, and Kate E. Phelps, assistant, Department of Botany; Edward P. Van Duzee, Curator, J. O. Martin and Amy Williamson, assistants, Dr. Edwin C. Van Dyke, Honorary Curator, Dr. Frank E. Blaisdell, Research Associate, and Dr. Frank R. Cole, Associate Curator

in Dipterology, Department of Entomology; Frank Tose, Chief, and Richard Cayzer and Cecil Tose, assistants, Department of Exhibits; Dr. Barton Warren Evermann, Curator, and H. Walton Clark, Assistant Curator, Department of Fishes; Joseph R. Slevin, Curator, Department of Herpetology; Dr. Walter Kenrick Fisher, Curator, Department of Invertebrate Zoology; Thomas Cowles, Assistant Librarian, and Veronica J. Sexton, Library assistant; Harry S. Swarth, Curator, Mary E. McLellan Davidson, Assistant Curator, and Joseph Mailliard, Curator Emeritus, Department of Ornithology and Mammalogy; Dr. G. Dallas Hanna, Curator, Dr. Leo George Hertlein, Assistant Curator, Winifred Morrison, and John L. Nicholson, Jr., assistants, Dr. Frank M. Anderson, Honorary Curator, and Dr. Roy E. Dickerson, Research Associate, Department of Paleontology; Constance W. Campbell, stenographer, part time; Evelyn Larsen, office assistant, part time; Raymond L. Smith, general assistant; Mabel E. Phillips, check-room attendant; William C. Lewis, janitor; Hugh Jones, assistant janitor; Allen Weatherwax, lecture attendant; Patrick O'Brien, day watch; Archie McCarte, night watch; Nellie Marshall, attendant, part time; Fred Tanaka, janitor, part time.

The Aquarium staff and employees as of January 1, 1931, were as follows: Dr. Barton Warren Evermann, Director; Susie M. Peers, Secretary, part time; Constance W. Campbell, stenographer, part time; Evelyn Larsen, office assistant, part time; Alvin Seale, Superintendent; Robert J. Lanier, Assistant Superintendent; Phyllis Beardslee, doorkeeper; Clynt S. Martin, chief engineer; B. T. Culleton, first assistant engineer; John A. Dwyer, second assistant engineer; Clyde E. Guidry, chief attendant; Jack Solini, first assistant attendant; L. R. Solini, second assistant attendant; Leon Maxwell, third assistant attendant; Frank J. Maxwell, relief engineer and attendant; S. J. Shenefield, carpenter and general utility man; Patrick O'Neill, janitor; Patrick McArdle, assistant janitor; Frank Haley, day watch.

May Peffer, library assistant, resigned January 11, 1930. Her place was taken by Veronica J. Sexton, February 7. Barbara Cowles was employed as temporary library assistant from December 8, 1930, to January 1, 1931. Robert Thomp-

son, Jr., lecture attendant and library assistant, resigned June 10, 1930. Allen Weatherwax took his place as lecture attendant October 5, 1930. Russell Hendrick, assistant, Department of Exhibits, resigned May 16, 1930. Winifred Morrison began work as assistant in the Department of Paleontology, March 12, 1930. James Campbell was employed as temporary assistant in the Department of Fishes part time in 1930. Harold Thayer was employed as temporary assistant in the Department of Fishes from April 26 to June 12, 1930. Mrs. Nellie Marshall began work as part time attendant February 9, 1930. Enid A. Larson began work June 16 as temporary check-room attendant in the absence of Mabel Eleanor Phillips. She was employed in this position up to October 15. She worked in the Department of Fishes from October 15 to November 15, and in the Department of Herpetology from December 1 to 6, 1930. Gust Anderson was employed as temporary night watchman in the absence of Hugh R. Jones from September 1 to 20, 1930. J. N. Angelucci, third assistant attendant, resigned August 31, 1930. Leon Maxwell took his place September 1, 1930. Peter Busalacchi was employed as temporary help, November 12, 1930, in place of Leon Maxwell who was injured and temporarily unable to work. Robert J. Lanier was appointed Assistant Superintendent of the Steinhart Aquarium February 1, 1930. Charles W. Hibbard, assistant collector, resigned November 16, 1930. Elsie von Larisch was employed as temporary typist from August 4 to October 31. Frank Haley took the place of James Cavanaugh as day watch.

Cooperation with Public and Private Schools, with Other Institutions, and with Individuals

The Museum continues to be of service to the schools, other institutions, and individuals in their educational and scientific work.

All available space for public exhibits has long since been utilized; nevertheless, our Department of Exhibits continues, as material and time permit, to prepare new educational exhibits to put on display so soon as suitable exhibition rooms become available.

During the year the research collections in the various departments increased greatly, particularly in the departments of Botany, Entomology and Paleontology, as is shown in the reports of the respective curators.

Twelve portable habitat groups of animals were loaned to the Berkeley public schools where they were kept in circulation throughout the school year. At the end of the school year these portable exhibits are returned to the Academy for inspection and storing during the summer vacation. The Academy continues to loan to schools and investigators specimens of birds, mammals and other objects requested. And quite a number of investigators and special students come to our laboratories, particularly in botany, ornithology, herpetology and paleontology, for the purpose of special study.

The Academy receives many letters from the general public, asking for information on many and diverse subjects, not all of a scientific nature.

These are usually referred to the appropriate department and the information requested is supplied, whenever possible, by the Director or the Curator of the department concerned. This frequently requires a considerable amount of time in research or consultation of literature.

Visitors to the Museum

	1916	*1917*	*1918*	*1919*	*1920*	*1921*	*1922*	*1923*	*1924*	*1925*	*1926*	*1927*	*1928*	*1929*	*1930*
January	23,170	25,260	17,241	27,013	25,755	19,038	15,270	32,364	34,989	26,528	33,791	35,859	26,757	30,725	
February	22,058	23,698	17,586	23,450	25,679	18,534	20,529	44,439	29,295	34,183	24,580	36,669	29,769	37,499	
March	31,606	26,810	27,397	25,419	28,279	27,922	26,341	39,935	39,168	38,677	34,624	31,414	40,680	40,953	
April	32,175	23,274	25,994	32,208	24,939	36,057	21,911	41,332	40,257	36,746	38,452	42,965	31,419	38,217	
May	26,154	26,391	28,369	37,107	25,517	27,237	37,597	48,152	38,137	52,913	47,414	43,129	41,318	42,909	
June	32,123	29,843	32,248	36,207	29,406	27,131	39,511	58,281	51,775	53,799	51,630	51,100	65,998	49,012	
July	37,193	31,420	48,028	52,492	43,186	36,263	64,530	91,329	69,921	83,707	84,282	84,406	68,658	63,601	
August	24,619	31,137	43,730	53,470	39,422	34,787	50,849	105,130	77,847	81,362	66,870	73,282	62,880	62,474	
September	16,448	27,866	29,847	34,007	42,013	31,458	28,408	69,870	82,814	63,737	57,615	56,443	54,882	55,015	37,646
October	36,933	20,629	14,743	30,463	33,500	24,861	19,459	66,894	43,074	40,418	44,654	43,520	36,094	39,120	30,061
November	27,718	21,810	8,531	25,246	19,347	18,593	19,080	48,766	37,611	35,634	30,420	30,581	26,685	34,545	30,891
December	15,002	21,693	19,588	21,188	21,340	15,062	13,339	36,707	21,572	32,245	34,555	30,827	24,217	29,837	27,319
Totals for the years	96,101	321,096	290,542	351,497	403,566	332,157	307,255	498,775	646,033	553,423	575,159	543,014	540,702	525,996	491,307

Grand total since opening of the Museum September, 1916 6,476,613

VISITORS TO THE AQUARIUM

	1923	*1924*	*1925*	*1926*	*1927*	*1928*	*1929*	*1930*
January		82,283	72,153	38,259	44,300	53,454	41,160	49,538
February		119,001	61,213	66,032	39,515	54,105	44,070	66,755
March		88,172	97,986	82,153	58,151	57,083	75,876	76,193
April		83,245	79,021	64,830	65,337	78,735	50,583	69,362
May		97,083	75,187	94,521	87,961	104,230	92,048	98,295
June		112,785	94,717	91,451	70,151	110,206	91,936	92,538
July		145,703	128,261	127,999	142,738	151,881	115,018	123,267
August		148,899	144,208	124,635	115,230	115,915	106,681	104,310
September	29,800	116,032	106,492	86,645	87,909	92,755	121,143	74,347
October	209,671	71,273	72,350	79,108	66,117	51,521	68,304	60,776
November	145,434	67,500	59,074	49,741	44,643	50,554	72,149	59,138
December	96,757	48,376	52,929	48,423	43,582	36,406	53,658	56,593
Totals for the years	481,662	1,180,352	1,043,591	953,797	865,634	956,845	932,626	931,112

Grand total since opening of the Aquarium September, 1923 7,345,619

SCHOOLS VISITING THE MUSEUM IN 1930

Following is a list of the schools, the grades, teachers, number of pupils, and dates of visits in 1930:

SAN FRANCISCO SCHOOLS VISITING THE MUSEUM IN 1930

DATE 1930	SCHOOL	GRADE	NUMBER PUPILS	TEACHER
Jan. 25	Everett Jr.	H9	15	E. Browne
" 31	Commodore Sloat	5th	38	M. d'Erlach
" 31	Hawthorne	6B	36	F. C. Muller
Feb. 4	Sherman	6B	27	M. Doran
" 6	Sherman	2-3B	66	C. R. Murray, A. Turner
" 6	Le Conte	4A-4B	43	Jeannie Strassner
" 6	Sarah B. Cooper	3A-3B	74	C. MacCurra, T. Meachum
" 7	Sherman	5B	33	M. Denny
" 7	John Muir	Ungraded	14	M. L. Kennedy
" 8	Everett Jr. High	G9-H9	15	Elsie Browne
" 13	Hawthorne	6H	46	C. Hackman, M. Gallagher
" 14	Golden Gate	4A	27	M. Maughan
" 14	Columbus	6B	34	Isabel Elkins
" 17	Poly. H. S.	L2-Biol	19	J. Koehler
" 18	Jean Parker	4A	40	C. Seidker
" 18	Patrick Henry	5A	33	E. MacLean
" 25	Le Conte	3B	28	Miss Michel
" 26	Hawthorne	5A-5B	35	M. E. Doherty
" 26	Commodore Stockton	5A	33	H. F. Jamieson
" 28	E. R. Taylor	3B	32	K. M. Brazell
" 28	Jean Parker	5B-6A	72	M. Valsangiacomo
Mar. 5	E. R. Taylor	3B	25	O. Wilcox
" 6	Grant	4B	40	E. Johnson
" 6	Columbus	3A-B	32	M. K. Schnittger
" 16	Everett Jr. High	Junior H	16	E. Browne
" 10	Crocker Jr. High	H9	30	M. Hibbard
" 11	Argonne	6A	34	J. A. Plevin
" 11	Poly. H. School	10	18	Koehler
" 11	Francis Scott Key	4A	38	O. Schell
" 14	Sarah B. Cooper	Ungraded	14	R. Stauer
" 14	Guadalupe	5A	38	M. Johnson
" 14	Adams	3A-2B	24	A. McVeigh
" 15	State Teacher's College		17	Lea Reid
" 19	Outdoor School	Kindergarten	15	Marie Brown
" 20	Franklin	Jr. Primary	22	Marie A. Reilly
" 20	Galileo	High School	17	E. Kluegel
" 21	Bret Harte	Ungraded	11	C. W. Sullivan
" 22	Everett Jr. High	H9	10	E. Browne
" 23	Portola	1-7th	46	M. Crosby
" 23	Commodore Stockton	4A	24	H. Jacobs
" 25	Sheridan	4A	31	M. A. Lentz
" 25	Lincoln	Ungraded	10	F. A. Brierly
" 26	Monroe	5A	30	N. P. Hockley
" 26	Presentation	8B-7B	100	S. Xaveria
" 27	Com. Stockton	4A-4B	58	M. Richter, M. Holl
" 27	Burnett	3A	36	A. Gibson
" 27	Sunnyside	5A	37	F. Kelly
" 28	Argonne	2A	36	F. Stockton
" 31	Lafayette	7th-8th	33	M. Copeland
" 31	Junipero Serra	5A	40	Miss Akers

SAN FRANCISCO SCHOOLS VISITING THE MUSEUM IN 1930—*Continued*

DATE 1930	SCHOOL	GRADE	NUMBER PUPILS	TEACHER
April 2	Twin Peaks	1A-1B	21	Florence McNeill
" 2	Bernal	7B	34	Olive A. Perry
" 3	Bernal	7A	35	B. Kelly
" 3	Paul Revere	5A	37	M. J. Ludwig
" 4	Washington Irving	5B-6A	76	Edna Murphy
" 4	Sherman	Ungraded	11	C. Middleton
" 5	Jefferson Union	8th	12	M. Miller
" 5	Prescott	6th	34	M. Campanari
" 5	Everett Jr. High	Mixed	14	W. Browne
" 8	Fremont	High 6th	37	S. A. Perry
" 8	Galileo	High School	20	Miss Kautz
" 9	Poly. High School	H9	13	Koehler
" 9	Dudley Stone	Special	33	G. Mosby, M. Jones
" 10	Guadalupe	6-7-8-Girls	43	K. Growney
" 10	Bryant	4-5	27	L. Moncrieff
" 11	E. R. Taylor	4B Grade	26	E. M. Roth
" 11	Marshall	3A	28	M. Mack
" 17	Knightsen	2-3-4-5	30	A. Frey, E. Moody
" 18	Daniel Webster	Tumbling Cl	17	D. Husing
" 19	Everett Jr. High	Mixed	12	E. Browne
" 21	Emerson	2A	25	M. H. Leibel
" 23	Jean Parker	Sight Con	12	U. Duane
" 23	Hamlin School	3	12	
" 23	Sunnyside	6B	37	C. Benelisba
" 28	Burnett	4A	39	L. Sweeney
" 29	St. Agnes	Second	31	Sister Victorine
" 29	St. Agnes	5	50	Sister Benegne
May 8	Longfellow	4B	39	J. Kane
" 9	Mt. Eden	Mixed	50	Misses Oliver, Good
" 9	Raphael Weill	2A	31	A. J. Johnson
" 13	Sunnyside	6A	27	Mrs. V. Kelley
" 13	Poly. High School	L2	18	Koehler
" 13	Grant	7A	46	R. N. Wilson
" 13	Hamlin	Jr.-Sr.-Bot	12	S. Davis
" 13	Lincoln	5A	26	D. Rich
" 14	Parkside	4B	28	C. T. Bothe
" 14	Geary	3B	31	H. Ekoos
" 14	Poly. High School	L2	19	Koehler
" 15	Guadalupe	6A	32	T. B. Cummings
" 15	Paul Revere	3B	39	Evelyn Elster
" 16	Paul Revere	4A	38	D. Christie
" 16	Knightsen	7-8	31	A. McKinnon
" 16	Cabrillo	Kindergarten	46	M. Springer
" 19	Corpus Christi	6-7	60	Sister St. Joseph
" 21	Notre Dame H. S	Secretarial	41	Sisters
" 21	Fremont	H2	30	M. Donelson
" 21	Lowell High	10th	5	A. Schwartz
" 21	Redding	4A-4B	78	Misses Gardiner
" 22	St. Joan of Arc	6-7-8th	101	Sister St. Joseph
" 22	Central	5-6th	46	Adeline Field
" 22	Lincoln	2-3d	54	A. Hardy, B. Steel
" 23	Bryant	4B	29	E. Leary
" 23	Bryant	3A	40	M. Koenecke
" 23	Hawthorne	5B	33	F. E. Nippert
" 23	Commodore Stockton	4B	35	A. Barter
" 26	Burbank	H8	28	H. M. Williams
" 26	St. Peter's	3d-4th	100	M. Roberta

SAN FRANCISCO SCHOOLS VISITING THE MUSEUM IN 1930—*Continued*

DATE 1930	SCHOOL	GRADE	NUMBER PUPILS	TEACHER
May 27	E. R. Taylor	6A	36	H. Teping
" 27	St. Agnes	7th, Commercial	74	Sr. M. Martin
" 27	Poly. High School	L2	20	M. S. Jussel
" 27	Polytechnic	L2-Biology	40	M. S. Jussel
" 28	Garfield	4th	50	C. McKeon
" 28	Emerson	4B	38	H. Bain
" 29	S. San Francisco	6th	35	G. B. Gavin
" 29	Junipero Serra	4B	60	D. L. Baird
June 4	Crocker Jr. High	H8	20	M. Hibbard
" 5	Sarah B. Cooper	6A	31	W. J. Karnes
" 9	S. F. S. T. College	V. Zoology	30	B. Kauntz
" 9	Woodrow Wilson Jr. H	L9	15	M. D. Innes
" 9	Commodore Stockton	6B	37	G. Morton
" 9	Commodore Stockton	6B	30	M. Behn
" 10	Pacific Heights	5B	33	R. E. Dreyfus
" 12	Jefferson	3B	33	L. Nolan
July 16	Teacher's College	College	17	B. Kauntz
" 22	Teacher's College	College	11	B. Kauntz
" 25	Teacher's College	Zoology	19	B. Kauntz
Aug. 1	Teacher's College	Zoology	17	B. Kauntz
" 19	Columbus	4A-B	29	H. B. Grant
" 27	Raphael Weill	6A-6B	33	H. Baxter
Sept. 10	Edison	4B	30	C. Reed
" 10	Edison	4B	36	R. S. Miller
" 10	Jefferson	Eighth	34	M. H. Traynor
" 14	Raphael Weill	1B	26	D. Thompson
" 16	Lafayette	3B	36	M. Harrington
" 17	Junipero Serra	2-4A, 5A	86	Ahlgren, Baird
" 19	Bernal	8B	37	M. C. Beale
" 19	Lafayette	3B	38	L. C. Webb
" 20	Emerson	6A	32	Miss Currid
" 23	Franklin	3A-2B	38	S. Hagerty
" 25	Golden Gate	3A-3B-4A	75	L. King, M. Laug
" 25	Bay View	Low Seventh	35	I. E. Loughlin
" 26	E. R. Taylor	5B	34	L. E. Kamuff
" 26	Grant	4A	44	E. Johnson
Oct. 2	Miss Ransom's	8th	11	Regula Bernays
" 2	U. of California	Landscape Design	8	H. W. Shepherd
" 3	Parkside	2B	29	A. H. Ercolini
" 3	Emerson	6B	38	A. E. Sharpe
" 6	Girls High	H8 Science	26	M. Pettit
" 8	Central	3-4	44	R. Grayson
" 9	Sherman	4A	31	E. A. Shipaugh
" 10	Franklin	L4th	40	E. Callahan, G. Hill
" 11	Emerson	5A	13	B. Fortune
" 13	E. R. Taylor	3B	29	Olive Parker
" 14	Cabrillo	5B-6A	24	A. B. Green
" 15	Sunnyside	6th	34	C. Benelisha
" 16	Laguna Honda	5B	32	B. Meyers
" 16	Commodore Stockton	6A-6B	34	L. Brovelli
" 16	St. Ignatius College	College	16	Geo. Haley
" 16	Presidio Jr. High	7th Grade	26	O. C. Neimarkel
" 16	Laguna Honda	5A	37	E. Ohea
" 17	Bay View	8B	27	R. I. Morrow
" 17	Emerson	6A	38	D. Le Jeune
" 17	Franklin	Low 4th	29	Jessymae Dodge
" 17	Girls High	H10	28	S. Ward

SAN FRANCISCO SCHOOLS VISITING THE MUSEUM IN 1930—*Continued*

DATE 1930	SCHOOL	GRADE	NUMBER PUPILS	TEACHER
Oct. 17	E. R. Taylor	6A	31	A. Simonetta
" 20	Hawthorne	4th	35	Gertrude Flanagan
" 20	Hawthorne	2B-3A	39	M. Coen
" 21	Frederic Burk	3d-4th	17	M. Gold
" 21	Francis Scott Key	8th	31	A. Dowling
" 21	Girls High	H10	36	S. Ward
" 23	All Schools	Camp Fire	12	E. E. Boyes
" 24	St. John School	High School	38	Sister Pauline
" 24	Garfield	4B	30	C. McKeon
" 24	Garfield	4A	30	A. McDonald
" 24	Lafayette	4B	37	T. L. Williams
" 27	Sarah B. Cooper	5th	36	I. Brown
" 29	Guadalupe	5A	39	S. Freer
" 29	Monroe	7A	28	P. L. Plevin
" 29	Garfield	Ungraded	17	D. L. Darvill
" 30	Emerson	4A	38	H. Bain
" 31	Hawthorne	5A	41	M. Lahaney
Nov. 3	Frank M. McCoppin	3A-3B	34	A. L. Barrett
" 5	Bay View	7A	30	Ethel Maddocks
" 5	Jean Parker	6A	33	May Casey
" 8	Fairmont	6th	8	I. Garwood
" 8	Westlake Jr. High	H9	3	M. Carmichael
" 10	Argonne	2d	29	L. E. Andersen
" 13	Galileo		19	A. Kluegel
" 14	Garfield	4A-4B	30	C. McKeon
" 14	Monroe	8A	27	E. H. Stern
" 19	Roosevelt	18	13	A. G. Soares
" 20	Jean Parker	3d	30	M. Wramp
Dec. 3	E. R. Taylor	4A	30	Gwen Sellman
" 12	State Teacher's College		21	M. Guernes
" 11	Howard Avenue	H8	24	W. E. Brown
" 11	State Teacher's College		24	M. Guerrerd
" 11	State Teacher's College	Freshmen	60	E. Pickard
" 11	State Teacher's College	Zoology	24	E. Pickard
" 11	Laureau School	H8	14	W. Naturik
" 17	State Teacher's College	Freshmen	20	E. M. Fisher

SCHOOLS OUTSIDE OF SAN FRANCISCO VISITING THE MUSEUM

DATE 1930	SCHOOL	GRADE	NUMBER PUPILS	TEACHER
Jan. 10	Menlo Park	3d-4th	34	Ivy Laughlin
" 31	Washington, Alameda	8th	34	M. Snyder
Feb. 1	North Brae, San Bruno	Nature Study	12	Grace Seeney
" 4	Le Conte, Berkeley	6th	21	S. Hamilton
" 28	Elem. School, Berkeley	3d	26	E. Norton
Mar. 6	Katherine Branson	2d	6	Isabel Chesnut
" 8	Crocker, Daly City	5th	33	M. Packwood
" 8	Roseville, U. High	Jrs.-Srs	13	S. B. Fleming
" 15	U. C., Berkeley	Zool. 113	27	J. Grinnell
" 22	San Mateo, Jr. C	Biology	32	Dr. Shepherd
" 28	Pleasanton	8th	25	M. G. Noble
April 3	Central, Redwood City	6th	30	Irene Crosby
" 11	Pittsburg	4-8th	170	M. Ellis, Youngberg
" 28	Felton, S. Cruz Co	6-7-8	32	M. M. Oliver

SCHOOLS OUTSIDE OF SAN FRANCISCO VISITING THE MUSEUM—*Continued*

DATE 1930	SCHOOL	GRADE	NUMBER PUPILS	TEACHER
May 2	West Park, Tracy		44	W. R. Hoar
" 2	Amer. Canyon, Napa Co	1-8th	45	V. Schebler, B. O'Hagan
" 3	Tech. High, Oakland	Latin	60	H. B. Garrison
" 15	Jefferson, Colma	8th	27	M. H. Traynor
" 16	Irvington Grammar	8th	23	D. G. Scale
" 16	Columbus, Berkeley	4th-5th	90	S. J. Irwin
" 18	Melrose, Oakland	High 6th	19	L. Bronner
" 21	Columbus	4th-5th-6th	65	M. Wilson, Shapero
" 24	Tamalpais Park	4th	30	Edna Maguire
" 24	Belvedere	7th-8th	10	Myrtle D. Ensign
" 24	Burbank, Berkeley	H-7th	16	C. McKinnon
June 5	Jefferson, Colma	4th	32	H. A. Madonna
" 7	Walnut Creek	6-7-8th	114	M. Parsons, C. Laggan
" 24	Laurel, Oakland	Low 6th	52	S. Davidson
Aug. 14	Intermediate, Lodi		23	E. F. Van Vlear
" 4	U. C. Berkeley	4A-4B	33	E. W. Gifford
Oct. 22	Edgemont, San Bruno	8th	37	Jane E. Trigg
" 30	Franklin, Berkeley	High 4th	35	C. McEnerny
" 30	Franklin, Berkeley	High 6th	45	E. J. Seabury
" 31	Franklin, Berkeley	Special	18	G. Hillyard
Nov. 3	U. C. Davis	Zoology	19	Tracy Storer
" 14	S. T. College, San Jose	2d	52	E. C. Walsh
" 14	University High, Oakland	10th	68	Jean M. Nelson
" 21	University High, Oakland	L6th	86	E. Lucas
" 21	Visitacion Valley	5B-6A	38	Helen Griswold
Dec. 3	Weber College	Jr. College	28	Eva Browning
" 4	Turnbull, San Mateo	6th-7th	33	H. J. Neuling
" 8	Lomita Park	7th-8th	37	B. MacKenzie
" 18	Burlingame, Y. M. C. A		22	R. Simrock

SUMMARY

Schools of San Francisco:		
Total Number of Pupils	6526	6526
Total Number of Teachers	208	
Total Number of Classes	216	
Schools Outside of San Francisco:		
Total Number of Pupils	1676	1676
Total Number of Teachers	47	
Total Number of Classes	56	
		8202

SCHOOLS VISITING STEINHART AQUARIUM IN 1930

Following is a list of the schools, the grades, teachers, number of pupils, and dates of visits in 1930:

SCHOOLS OF THE CITY AND COUNTY OF SAN FRANCISCO

DATE 1930	SCHOOL	GRADE	NUMBER PUPILS	TEACHER
Jan. 21	Geo. Peabody	2A-2B	34	L. Roach
" 23	Pacific Heights	3A	14	Miss Greenwood
" 31	Hawthorne	6B	36	F. C. Muller
Feb. 4	Sherman	6B	27	M. Doran
" 6	Le Conte	4A-4B	39	J. Strassner
" 6	Sarah B. Cooper	3A-3B	72	C. MacCarra, F. Meachum
7	Sherman	5B	33	M. Denny
" 7	John Muir	Ungraded	14	M. L. Kennedy
" 11	Alvarado	5B	60	G. P. Garety, R. Pennfeather
" 13	Hawthorne	6A	46	C. Hackman
" 14	Columbus	6B	33	J. W. Elkins
" 14	Grant	6A-6B	35	Mrs. R. N. Wilson
" 14	Golden Gate	4A	27	M. Maughan
" 18	Jean Parker	4A	40	C. Seidkin
" 18	Jefferson	Kindergarten	39	D. Dacatur
" 26	Hawthorne	5A-4B	35	M. E. Doherty
" 28	Jean Parker	5B-6A	36	Norma Valsangiacomo
" 28	E. R. Taylor	3B	32	K. M. Brazill
Mar. 1	Calvary Baptist Church	Juniors	9	Mrs. K. R. Camp
" 1	S. F. Sutro	Mixed	27	Florence Wiggins
" 5	C. R. Taylor	3A	27	A. Wilcox
" 5	Columbus	3A-B	32	M. K. Schiullger
" 6	Grant	4B	38	E. Johnson
" 8	Crocker School	High 5th	33	Mrs. Peckwood
" 10	Crocker Jr. High	High 9th	30	Miss M. E. Hibbard
" 11	Sarah B. Cooper	Ungraded	14	P. Stauer
" 11	F. S. Key	4A	36	C. Schell
" 11	Rincon	1B-2A-2B	24	M. Quinn
" 11	Polytechnic High	L2	21	M. S. Jussel
" 11	Polytechnic High	L2	27	M. S. Jussel
" 12	Parkside	2A	25	A. H. Ercolini
" 12	Adams	2B-3A	24	Alma McVeigh
" 12	Argonne	8B	30	D. Boyisen
" 15	State Teacher's College		17	L. Reid
" 17	Immaculate Conception Acad.	Ungraded	12	Sister Margaret Mary
" 18	Lincoln	1B-2A-3B	62	Mrs. R. D. Love, Miss Jane Redmond
" 18	Polytechnic	L2	21	E. Koehler
" 19	Polytechnic	L2	15	E. Koehler
" 20	Franklin	Jun. Prim	22	Marie A. Reilly
" 24	Commodore Stockton	4A	24	Mrs. H. Jacobs
" 25	Sheridan	4A	29	M. A. Lentz
" 25	Lincoln	Ungraded	10	Mrs. F. A. Buerly
" 26	Edison	6B	35	M. Kelly
" 26	Edison	6A	25	J. O. O'Brien
" 26	Edison	6A	19	A. Wilson
" 26	Raphael Weill	1B	24	M. Villalon
" 26	Presentation	7th & 8th	97	Sister M. Genevieve

SAN FRANCISCO SCHOOLS VISITING STEINHART AQUARIUM IN 1930—*Continued*

DATE 1930	SCHOOL	GRADE	NUMBER PUPILS	TEACHER
Mar. 26	Lowell	H2	10	L. M. Elskamp
" 26	Edison	6B	35	M. Hardiman
" 27	Sunnyside	5A	36	F. Kelly
" 27	Com. Stockton	4B-4A	58	Mrs. Richter, Miss Holland
" 28	Presentation	3-4-5-6	85	Sr. M. Gabrielle
" 28	Argonne	2A	36	F. Stockton
" 31	Lafayette	7-8	10	M. Copeland
" 31	Com. Stockton	5B	38	L. Mitchell
April 2	Bernal	7B	34	Olive Alida Perry
" 2	Madison	2B	32	M. Kilgariff
" 3	Bernal	7A	35	B. Kelly
" 3	Paul Revere	5A	37	M. J. Luding
" 3	George Peabody	3A	32	E. D. Ruff
" 4	John Muir	3B-4A	54	Z. Meyer, F. Bleuler
" 4	Washington Irving	6A	40	Florence R. McInerney
" 7	Monroe	5	36	M. Cunningham
" 8	Fremont	H6	37	S. A. Perry
" 8	Polytechnic	L2-H2	19	H. J. Wilcox
" 9	Dudley Stone	Special	33	Mrs. Jones, Miss Mosby
" 9	Frank McCoppin	8B	21	H. Davis
" 10	Sarah B. Cooper	6B	20	M. D. Roache
" 10	Guadalupe	3A	28	B. Cole
" 10	Bryant	4-5	27	L. Moncrieff
" 11	Marshall	3A	28	N. Mack
" 12	Jean Parker		12	V. Duane
" 23	Sunnyside	6B	37	Mrs. C. Benelisha
" 25	Sarah B. Cooper	2	25	J. Antipa
" 25	Emerson	3A	28	I. McCauley
" 29	Jefferson	2B	27	E. K. Hills
" 29	Golden Gate	2A	25	Elva La Rue
" 29	St. Agnes School	5	50	Sr. M. Benigna
" 30	Polytechnic High	H2 Biol	21	L. M. Gladstone
May 6	E. R. Taylor	1	50	H. Downey, F. Geistofson
" 8	Longfellow	4B	39	J. Kane
" 9	Washington Irving	6B-5B	65	Miss Doyle, Mrs. Dolan
" 13	Grant	7A	44	R. N. Wilson
" 14	Parkside	4B	28	C. T. Bothe
" 14	Lincoln	5A	26	Dorothy Rich
" 16	Cabrillo	Kindergarten	45	M. Springer
" 16	Paul Revere	4A	38	D. Christie
" 19	St. Pauls	6-7	9	Sr. M. Alphonsus
" 19	Corpus Christi	6-7	60	Sisters of St. Joseph
" 21	Lowell High	10	50	A. Schwartz
" 22	Lincoln	2-3	54	D. B. Steel, Alice Hardy
" 22	Alvarado	4A	57	M. O'Shaughnessy, E. Crawley
" 22	Redding	4A-4B	76	S. M. McMackin, G. Gardner
" 22	Washington Irving	3B	40	E. Cummings
" 23	Bryant	3A	40	M. Koenecke
" 23	Bryant	4B	29	E. Leary
" 23	Commodore Stockton	4B	35	A. Barter
" 23	Hawthorne	5B	33	Florence E. Neppert
" 26	St. Peters	3-4	100	Srs. M. Roberta & Edward
" 27	Polytechnic	L2-Biol	40	M. S. Jussel
" 29	So. San Francisco	6	35	G. B. Gavin

SAN FRANCISCO SCHOOLS VISITING STEINHART AQUARIUM IN 1930—*Continued*

DATE 1930	SCHOOL	GRADE	NUMBER PUPILS	TEACHER
May 29	St. Agnes	7	50	Srs. Margaret Mary and Martina
" 29	Garfield	4A-4B	50	M. Ivancovich
" 29	Emerson	4B	38	H. Bain
" 29	Junipero Serra	4B	59	M. Ahlgren, D. L. Baird
June 2	Monroe	8A	30	C. A. Davis
" 2	Fairmount	7A	57	Mrs. Holden, Miss Corpstein
" 3	Laguna Honda	8A	19	Mrs. Rae, Miss Lynch
" 3	Monroe	7A	41	D. Greenwood
" 4	Monroe	8A	31	E. E. Meline
" 5	Laguna Honda	7B	14	Miss Feehan, Mrs. Rae
" 5	Sarah B. Cooper	6A	31	W. J. Karnes
" 6	Park Boulevard Private School	1A-Kindergarten	20	Blanche R. Miller
" 9	Commodore Stockton	6B	66	G. Morton, M. Behm
" 10	Pacific Heights	5B	33	R. E. Dreyfus
" 12	John Muir	2A	40	Z. Coyle, M. La Gomarsin
July 25	McKinley Orphanage		38	Marion Sommerin
Sept. 5	Cabrillo	4B	34	J. Hampton
" 10	Edison	4B	65	R. Miller, C. M. Reed
" 12	Grant	1B	28	A. Tiling
" 17	Junipero Serra	2-4A	86	M. Ahlgren, D. L. Baird and G. E. Bell
" 18	Frederick Burke	L5	37	Miss Denhard
" 18	Lafayette	1B	32	Mrs. Williams
" 19	F. S. Key	6B	29	E. M. Holchester
" 19	Lafayette	3B	38	L. Webb
" 20	Emerson	6A	32	Miss Currid
" 25	Bay View	L7	35	Ida E. Loughlin
" 26	Grant	4A	44	E. Johnson
" 26	E. R. Taylor	5B	34	L. E. Kamuff
" 27	So. San Francisco Grammar	H4	10	Miss Broner
Oct. 3	Frederick Burke	H5-L6	16	Miss Raemsch
" 3	Emerson	6B	38	A. E. Sharpe
" 6	Daniel Webster	Ungraded	13	Miss C. Cuneo
" 10	Hancock	5A-5B	62	Mrs. Allmon, Mrs. English
" 14	Visitacion Valley	4A-B	25	F. Flinn
" 17	E. R. Taylor	6A	31	A. Simonetta
" 17	Bernal	7A	32	E. L. Murray
" 17	Bay View	8B	25	Rose I. Morrow
" 20	Jefferson	6B	38	M. Shepston
" 20	Hawthorne	4	35	Gertrude Flanagan
" 20	Bernal	7B	35	Mildred Cavanagh
" 21	Francis Scott Key	8	31	A. Dowling
" 21	Hawthorne	2B-3A	37	Mrs. M. Coen
" 24	Girls High	H10	25	S. Ward
" 24	Garfield	4A	30	Alice McDonald
" 24	Garfield	4B	30	C. McKeon
" 27	Sarah B. Cooper	5	36	I. Brown
" 27	Girls High	H10	27	S. Ward
" 29	Monroe	7A	28	P. L. Plevin
" 29	Guadalupe	5A	39	S. Frees
" 29	Garfield	Ungraded	16	D. Dorsill
" 30	John Swett Junior High	L8	30	Miss Woodward
" 30	Alamo	5A-5B	33	H. Searight
" 30	Emerson	4A	38	H. Bain
" 31	Hawthorne	5A	39	M. Lahaney

SAN FRANCISCO SCHOOLS VISITING STEINHART AQUARIUM IN 1930—*Continued*

DATE 1930	SCHOOL	GRADE	NUMBER PUPILS	TEACHER
Nov. 5	Jean Parker	6A	33	May Casey
" 5	Bay View	7A	28	Ethel Maddocks
" 6	Argonne	3A	27	O. Orr
" 7	Bernal	8A	34	Silvia Kresteller
" 10	Argonne	2	29	L. E. Andersen
" 13	Garfield	6B	25	Mrs. Scott
" 13	Monroe	7A-B	86	Misses Greenwood and Davini
" 13	Garfield	6A	29	J. A. Boyle
" 14	Monroe	8A	26	E. H. Stern
" 14	Garfield	4A-4B	52	C. McKeon, B. Kagel
" 14	Irving M. Scott	2A-2B	28	Mrs. H. McCourt
" 14	I. M. Scott	4B-5A	29	Lucille Koenig
" 18	Roosevelt	L8	43	A. G. Soares
" 18	Polytechnic High School	L2	28	M. S. Jussel
" 18	Roosevelt	L8	40	A. G. Soares
" 19	Roosevelt	L8	42	A. G. Soares
" 19	Polytechnic High	H2	21	Wilcox
" 20	Jean Parker	3A-3B	30	Mrs. P. A. Wramp
" 21	Visitacion Valley	5B-6A	36	Helen Griswold
" 28	Woodrow Wilson	7	25	Mrs. Nellie L. Raper
Dec. 4	St. Joan of Arc	5	22	Sisters of St. Joseph
" 6	South San Francisco	6	40	G. B. Gavin
" 10	State Teacher's College	1	20	Mrs. Gueseno
" 11	State Teacher's College	1A-Zool	75	Edith A. Pickard, Edna Fisher and Mrs. Gueseno
" 12	State Teacher's College	Freshmen	20	M. Fisher
" 17	Immaculate Conception Acad.	11	30	Sister M. Celestine
" 18	Sunnyside	7B	20	M. Hoeft

SCHOOLS OUTSIDE OF SAN FRANCISCO VISITING STEINHART AQUARIUM IN 1930

DATE 1930	SCHOOL	GRADE	NUMBER PUPILS	TEACHER
Jan. 10	Menlo Park School	3-4	34	Ivy M. Loughlin
" 23	North Brae, San Bruno	6-7	41	Miss D. Jones
" 31	Washington, Alameda	8	34	M. Snyder
Feb. 1	Edinvale, Hayward	5-6	5	Mrs. R. N. Dwinell
" 1	Boy Scouts, Mill Valley	Troop 2	17	R. C. Sproleder
" 4	Le Conte, Berkeley	6	21	S. Hamilton
" 4	Livermore High School		23	O. Murphy
Mar. 6	Katharine Branson School, Ross	2	6	Isabel Chesnut
" 7	University Elementary School, Berkeley	5	32	Mrs. A. S. Gist
" 8	Stanford University, Palo Alto.	Medical	12	Dr. Starks
" 8	Roseville Union High	3-4	13	Mrs. Sana, B. Fleming
" 15	U. C., Berkeley	Zool. 113	27	J. Grinnell
" 21	Walnut Creek, Walnut Creek	6-7-8	82	Mabel E. McLoggan
" 21	Lafayette, Lafayette	7-8	27	Mrs. Clara Christian
" 21	Columbus, Berkeley	6	45	Miss Hogan, Miss Almy
" 23	Portola School, Portola	1-8	40	Miss Crosby
" 28	Pleasanton Gram., Pleasanton	8	25	Mrs. Gertrude Noble, V. Bernard Johnson

SCHOOLS OUTSIDE OF SAN FRANCISCO VISITING STEINHART AQUARIUM IN 1930—*Continued*

DATE 1930	SCHOOL	GRADE	NUMBER PUPILS	TEACHER
April 8	Daniel Webster, Oakland		16	D. Husing
" 11	Pittsburg Grammar School	7-8	175	A. Huganey, W. Yorenberg, W. Ellis
" 12	E. Morris Cox, Oakland	H6	17	M. E. Geary
" 17	Knightsen	2-3-4-5	30	Mrs. E. Moody, Miss Agnes Frey
May 2	American Canyon, Napa Jct.	1 to 8	43	Virginia Schebles, Bernadette Hays
" 2	West Park, Tracy	Adv. Orchestra	43	Ernest Dobney
" 5	Prescott, Oakland	6	34	Miss Campanari
" 9	Mt. Eden	4-5-6-7-8	50	Mrs. Overacker, Mrs. Good, Misses Oliver and Garsberger
" 10	Westlake Junior High, Oakland	H7	10	Grace M. Taylor
" 15	Scotts Valley, Santa Cruz	5-8	20	Ruby Owens
" 15	Jefferson, Colma	8	26	M. H. Traynor
" 16	Knightsen, Knightsen	7-8	31	Anne McKinnon
" 16	Columbus, Berkeley	4-5	90	S. J. Irwin
" 17	Melrose, Oakland	H6	19	Lydia Bronne
" 21	Columbus, Berkeley	4-5-6	66	Mrs. Wilson and Shapero
" 21	Notre Dame, San Jose	Secretarial	37	Sister M. Reginald
" 22	Central, San Mateo	5-6	44	A. G. Field
" 22	Emerson, Berkeley	6B	42	A. M. Meginnes
" 23	Mt. Eden, Mt. Eden	1-2-3	48	Edna S. Overacker
" 24	Tamalpais Park, Mill Valley	4	30	Edna Maguire
" 24	Cragmont, Berkeley	4-5	15	Harry H. Stoops
" 25	Jefferson School, Colma	4-5	26	Miss Doolin
June 4	St. Mary of the Palms, San Jose	7-8	30	Marion Burton
" 5	Jefferson, Colma	4	32	Hazel A. Madonna
" 6	San Rafael Grammar	L8	22	C. F. Timony
" 7	Mission Grammar, San Jose	8	16	J. B. Vasconcellos
" 9	Woodrow Wilson, Jr. High, Oakland	L9	15	M. D. Innes
" 10	St. Vincents, Vallejo	8	28	Sr. Beockmans
" 20	Jefferson, Oakland	Mixed	23	Grace W. Janoschik
" 24	Laurel, Oakland	L6	22	S. H. Davidson
Aug. 23	Calvin Coolidge School, Burlingame		42	Elinor H. Statler
" 28	Wildwood, Piedmont	H3	18	Agnes Rathbone
" 28	Calvin Coolidge School, Burlingame		42	Mrs. C. C. Kerson, Elinor H. Statler
Sept. 11	Jefferson, Colma	8	34	Marie H. Traynor
" 13	Highland School, Oakland	6A-6B	32	Marie L. Spenser
" 26	Corralitos Union, Watsonville	7-8	22	Elma G. Bradley
" 27	Presbyterian Sunday School, Mountain View		23	Miss Center
Oct. 8	Central, San Mateo	3-4	44	Reinecke and Grayson
" 10	Franklin School, Berkeley	L4	40	Edna M. Callahan, Grace Hillyard
" 16	Lincoln School, Berkeley	Special	17	Charlotte Hayford
" 17	Franklin, Berkeley	L4	29	Mrs. Dodge
" 22	Edgemont, San Bruno	8	34	Jane E. Trigg
" 30	Franklin, Berkeley	H6-H4	80	Mrs. Seabury
" 31	Franklin, Berkeley	Special	18	Cianciarulo and Hillyard

SCHOOLS OUTSIDE OF SAN FRANCISCO VISITING STEINHART AQUARIUM IN 1930—*Continued*

DATE 1930	SCHOOL	GRADE	NUMBER PUPILS	TEACHER
Nov. 3	Univ. Calif., Davis	1A-Zoology	25	Tracy I. Storer
" 14	State Teacher's College, San Jose	2	52	Elizabeth Cameron Wilde
" 21	University High, Oakland	L10	86	E. Lucas
Dec. 3	Weber College, Ogden, Utah	Jun. College	28	Eva Browning
" 4	Turnbull, San Mateo	7-H6	33	Harry J. Neuling
" 9	Lazear School, Oakland	5-6	14	Rena Lesser
" 11	Lawrence School	H8	14	Warren Naturich
" 11	Howard, Burlingame	8	24	William E. Brown
" 15	Girl Scouts, Burlingame		18	Mrs. W. H. Cortelyou

SUMMARY

Schools of San Francisco:

Number of Visiting Pupils	6320
Number of Visiting Teachers	218
Number of Visiting Classes	221

Schools Outside of San Francisco:

Number of Visiting Pupils	2353
Number of Visiting Teachers	85
Number of Visiting Classes	101

DEPARTMENT ACTIVITIES

The year has been marked by commendable activity in the respective departments, as is evidenced by the annual reports of the several curators.

In the Department of Botany the growth has been up to the normal; the number of herbarium sheets increased from slightly in excess of 171,000 in 1929 to more than 180,000 at the end of 1930. The various additions to the Herbarium will be found listed by the Curator in her departmental report.

Collections were made by, or received from, members of the staff and from friends of the department from many different localities; all of which are fully recorded in the Curator's report.

The California Academy of Sciences was represented at the Fifth International Botanical Congress which met in Cambridge, England, in August, 1930, by regularly appointed delegates as follows: Miss Alice Eastwood, Curator of Botany, California Academy of Sciences, voting delegate; Dr. Willis

L. Jepson, Professor of Botany, University of California; Dr. Douglas Houghton Campbell, Emeritus Professor of Botany, Stanford University; and Miss Susie M. Peers, Secretary, Board of Trustees, California Academy of Sciences.

Besides attending the Botanical Congress, Miss Eastwood also attended the sessions of the International Horticultural Congress which met in London; she also took advantage of the opportunity to spend considerable time in the Herbarium of the British Museum and in the Royal Herbarium at Kew, where she examined certain collections of plants obtained in America. She visited several botanic gardens for the purpose of studying the fuchsias, a group in which she is now especially interested.

The Department of Entomology continues to grow under Mr. Van Duzee's wise and enthusiastic supervision. During the year the research collections increased by 20,694 specimens, a detailed statement of which is given by the Curator in his report.

The laboratory of this department continues to be a popular meeting place for the local entomologists for the examination and study of species in which different ones are interested, for exchange of views, and for discussion of special problems in the field of entomology. Among prominent entomologists who have devoted considerable time each week to research work in the department's laboratories are Dr. F. E. Blaisdell, Dr. E. C. Van Dyke, Mr. E. R. Leach, Mr. L. S. Slevin. and Dr. Vasco M. Tanner. Among young entomologists who come quite regularly to the department for special research may be named Gorton Linsley, Graham Heid, Jas. E. Coute, Rev. Edward Guedet, Eric Walther, Geo. R. Wilson, R. Blackwalder, Carl D. Duncan, H. H. Keifer, Robert Usinger, Dr. Paul Wilbur, E. C. Zimmermann, and T. O. Zschokke.

For the Department of Exhibits the year was a very active one. All of the habitat groups and other public exhibits were gone over carefully to see that they were not suffering in any way.

Early in the spring (May 27), Mr. Tose, the chief of this department, left San Francisco to join Mr. Leslie Simson in Africa for the purpose of collecting accessory materials and making sketches for the use of the artists who will paint the

backgrounds for the habitat groups of African game animals which Mr. Simson is now collecting for the Simson African Hall that will form the principal unit in the Academy's new building, construction work on which is just now beginning and which, it is hoped, will be completed next October.

The Library, under the supervision of the Assistant Librarian, Mr. Thomas Cowles, has made satisfactory growth. Mr. Cowles has been active in completing the Academy's file of important serial publications of learned societies and scientific institutions. With the cooperation of the curators of the respective departments the growth of the Library has been as rapid as our funds would permit.

It is a matter for deep regret that the income of the Academy does not permit a larger allotment for library purposes, a condition which obtains in an equally great degree with the other departments.

Mr. H. Walton Clark, Assistant Curator, Department of Fishes, devoted much of his time to curatorial work such as transferring the Jordan-Eigenmann Indiana University collection to permanent containers, re-bottling, labeling, arranging, and supplying with fresh alcohol and new labels where necessary.

Similar attention has been given also to the general collection.

Arrangements have been made with Mr. George S. Myers whereby he will study and report upon certain portions of the Ternetz collection. Mr. Myers has already begun that study and will probably have his report completed within a year from now.

It is expected that the East Wing of the Museum will be completed by the end of 1931, when the Department of Fishes will be moved into the basement under the Simson African Mammal Hall of that building, where commodious and excellent quarters will be found.

The Department of Herpetology has had a successful year, as is shown by the report of the Curator, Mr. Slevin. At the beginning of the year Mr. Slevin was still in Australia. He left Australia February 22, 1930, and returned to America March 13. The expedition resulted in the addition of speci-

mens to the Academy's herpetological collections, which now number by actual count 66,722.

The Department of Ornithology and Mammalogy, as may be seen from the Curator's report, has had a satisfactory year. The accessions have been many, considerable field work was done, and much important research work was accomplished. The outstanding event of the year was the visit of Curator Swarth to London and Tring to study Galapagos finches in the British Museum and the Rothschild Museum, and to Amsterdam where he attended the Seventh International Ornithological Congress, June 1-8.

Another matter of general interest was the completion by Curator Emeritus Mailliard, and the publication by the Academy, of an attractive and very useful handbook on The Birds of Golden Gate Park. This publication supplies a long-felt want for a handbook of the birds of the Park. Mr. Mailliard's book meets this need admirably.

The Aquarium has not lost any of its popularity with the public, as may be seen from the record of the number of visitors, and the comments which are heard and the letters received.

The report of Superintendent Seale shows that the number and kinds of fishes and other animals on exhibition compare favorably with those of the previous year.

The Matson Navigation Company continues to cooperate with the Academy by bringing fishes to the Aquarium from the Hawaiian Islands, from Samoa, and from Australia. The specimens from Samoa are particularly beautiful.

There are so many more species of fishes and other aquatic animals that would make very attractive and instructive exhibits, and which we can not now display because of lack of sufficient space, that the Aquarium should be enlarged. President Grunsky has presented the matter to the City Supervisors and it is hoped that favorable consideration may be given to the recommendation.

The Department of Paleontology had a satisfactory year. Because of lack of space for housing collections, field activities primarily for the purpose of securing research material were confined to those necessary in connection with work already begun for which additional material was needed.

With the construction of our new building and the transfer of the Department of Entomology to it, the rooms now occupied by that department will be assigned to the Department of Paleontology, which will give Paleontology quarters which will prove very satisfactory and ample for several years to come.

The members of the staff of this department continue to be in demand by oil companies who wish their assistance in field investigation. Assistant Curator Hertlein was loaned for several months to the Hudson's Bay Oil and Gas Company to carry on geological explorations in Alberta, which afforded Dr. Hertlein opportunity to obtain considerable collections of Cretaceous fossils from that region. Many students from various parts of the country visited the department during the year and made use of the collections in connection with studies on which they were engaged.

The department continues to help specialists by loaning certain specimens or collections which they need to examine in their special studies.

The acquisition of the large Baldwin collection of mollusks by the Department of Paleontology in 1928 has been briefly noticed in preceding reports. The full value of it could not be realized until some progress had been made in unpacking and installing it in the Academy's research series. This work has now been practically completed and the collection will stand as an indelible monument to the industry of this early Hawaiian collector. In connection with the checking of records pertaining to the collection some very interesting biographical notes were compiled by Messrs. Hanna and Church. These are reproduced in full below.

DAVID DWIGHT BALDWIN, 1831-1912

BY G. D. HANNA AND C. C. CHURCH

In 1928, the California Academy of Sciences received as a gift from his heirs, the large and varied collection of shells of the late D. D. Baldwin.

The collection consists of land and fresh water shells from various parts of the world and especially marine, fresh water and land shells of the Hawaiian Islands. One large case of

marine shells was exhibited at the Alaska-Yukon-Pacific exposition at Seattle, Washington, in 1909 and was awarded a gold medal. The Hawaiian land shells are represented by a considerable number of the beautifully varied tree and ground snails famous among conchologists the world over, for their bright colors and intricate design.

During all the years in which he was collecting shells on the islands, Mr. Baldwin's own family was only mildly interested in his work, but sometimes they did help him collect, and his oldest son E. D. Baldwin, a surveyor, was sufficiently interested to do some good collecting on his own account. However, in his will, Mr. Baldwin made it known that he wished his own family to have the collection which they had made together. To each member he willed the part in which he or she had been most interested. To Mr. E. D. Baldwin he gave the bulk of the Hawaiian land shells; to Mrs. Lilian B. Atwater and Mrs. Duncan B. Murdoch he gave the marine shells, and the land and freshwater shells from other parts of the world he gave to Mrs. Winifred B. Weddick.

Soon after this disposition was made the Bishop Museum of Honolulu acquired the collection of land shells received by E. D. Baldwin, but the remainder of the collection, left at the Haiku home after the break-up of the family, was passed unnoticed and forgotten. It was not until 1928 that the junior author, in a chance conversation with Mrs. Winifred Brewster (now Mrs. Morrison), a granddaughter of D. D. Baldwin, learned of the collection. An effort was then made to bring it to light and through the hearty co-operation of Mrs. Morrison and the heirs mentioned above, the collection (with the exception of the part secured by the Bishop Museum), was recovered from the old deserted Haiku house, packed and sent to the California Academy of Sciences. Miss Lucie Hicks acted as representative for the Academy in going to Maui, meeting the donors and in arranging for packing and shipping. Mr. Duncan Murdoch did the greater part of the hard work of crating the cases and assisted Miss Hicks in the packing. Mr. and Mrs. Murdoch and Mrs. Weddick are to be especially commended for the kindly reception given Miss Hicks. Dr. H. A. Pilsbry has assisted us in compiling the bibliography given below.

In view of Mr. Baldwin's work in the Hawaiian Islands, not only as a collector in the field of Botany and Zoology, but as a pioneer in education and agricultural development, we believe it to be of timely interest to set forth the salient features of his long and varied career.

David Dwight Baldwin was born at Honolulu, November 26, 1831. His father, Rev. Dwight Baldwin, M. D., was originally from Durham, Conn., and came to the islands with the fourth band of missionaries which left New Bedford, Mass., December 28, 1830, and sailing around Cape Horn, arrived at Honolulu June 7, 1831. Rev. Dwight Baldwin had graduated from Yale College in 1821 and Auburn Seminary in 1829 and it was only natural that when his son had completed his work at Punahou School, Honolulu, he should go on to Yale. In 1852, he sailed east around Cape Horn and, arriving at New Haven, was admitted to Yale the next year. He graduated from that institution in 1857 with the A. B. degree and the honor of having won the De Forrest astronomical prize. The winning of this distinction in astronomy is the first indication we have of his scientific inclinations.

On October 7, 1857, he was married to Lois Gregory Morris, a descendant of Robert Morris, famous financier of the American Revolution, and shortly afterwards the couple set sail for the Hawaiian Islands. The young huband's knowledge of astronomy was to be of invaluable service to the party on this trip, for soon after embarking he discovered that the captain of the ship sailed only by "dead reckoning." From then on to the end of the long cruise he navigated the ship and delivered the party safely into the harbor of Honolulu.

This date marks the beginning of Mr. Baldwin's active life on the islands. From 1857-1864 he was a cane planter at Lahaina, Maui, and two of these years (1861-1862) he was a member of the Hawaiian legislature. From 1865 to 1872, he was manager of the Kohala Sugar Company, from which he resigned to go back and spend another year at Yale. While attending school he worked as librarian of the law school and received his M. A. degree in 1874.

On his return to the islands in 1874 he was made vice-principal of Lahaina School. His work there must have been very satisfactory, for in 1877 he was appointed Inspector-

General of Schools under the monarchy, a position which he held for eight years. His work earned for him the title of "Father of English Education in Hawaii." He was first to introduce English as a basis of education in the schools of Hawaii.

In 1885 he was made vice-principal of Lahainaluna School and held the position until 1890, when he moved to Haiku, Maui, to become principal of Hamakuapoko School and pioneer pineapple planter of Maui. From 1903 to 1912 he was vice-president of the Haiku Pineapple Company. He died June 16, 1912, at Honolulu. Notice of his death was published in The Nautilus, vol. 26, August, 1912, and a brief account of his life with a portrait was published the following November in the same journal, vol. 26, 1912, pp. 82-83.

About the year 1850, when Mr. Baldwin was a very young man, an active interest in the collection of land shells was awakened in the islands. Many collectors entered the field and it is quite probable that at this time he did his first systematic work. This period of land shell excitement is still known in the islands as the period of "the land shell fever." It lasted for several years and we know that by 1852 when the young man left Oahu to go to Yale, he had made a considerable collection of shells. While in school at New Haven he must have studied and developed an interest in botany, for on returning to the islands in 1851 he devoted much of his spare time to the study and collection of the native ferns and mosses; however, he did not neglect the land shells which were found and must have added considerably to his collection during this period.

On rare occasions during these early years on Maui, Mr. Baldwin enjoyed taking his family into the wooded hills for whole days of collecting. Each member of his family was instructed just where to look for the different kinds of snails—on which kinds of trees—under which special ferns—and quick young eyes were soon expert at spying out the rare and hidden ones. Much was accomplished during these years and although Mr. Baldwin did very little publishing himself, he was very generous in supplying material to those who did and many shells and ferns were named for him.

While Inspector-General of Schools he was living at Honolulu, and near his home at Punahou he had a small cabin which

he fitted up for a workshop and display room for his shells. He took great pride in this miniature museum and many of his friends were taken there to see and discuss with him his beautiful collection.

In 1890 he moved to Haiku, Maui, and from then to 1910 was his most prolific period as a writer and collector of the Hawaiian land shells. He was in active correspondence with conchologists and botanists in many parts of the world and by exchange of specimens he built up a very considerable collection of foreign shells. It was also during this last period that he began to assemble the marine shells of the islands and much success attended his efforts.

In 1893 he published his "Catalogue of the land and fresh water shells of the Hawaiian Islands," which is often referred to because of the accuracy of identifications and localities. The following bibliography of his writings is as complete as we have been able to make it.

1. Land shells of the Hawaiian Islands. <Hawaiian Almanac and Annual (Thrums), 1887, Honolulu; also issued separately, pp. 1-9.
2. Catalogue Land and Fresh Water Shells of the Hawaiian Islands. <Honolulu, Press Publ. Co. May, 1893, pp. 1-25.
3. Descriptions of new species of Achatinellidæ from the Hawaiian Islands. Proc. Acad. Nat. Sci. Philadelphia, vol. 47, 1895, pp. 214-236, pls. 10, 11.
4. Description of two new species of Achatinellidæ from the Hawaiian Islands. <Nautilus, vol. 10, 1896, pp. 31-32.
5. List of indigenous Hawaiian woods, trees and large shrubs. <Hawaiian Annual (Thrums), 1897, pp. 87-91.
6. Hawaiian Cypræidæ. <Nautilus, vol. 11, 1897, p. 123.
7. Land shells of the Hawaiian Islands. <Hawaii's Young People, vol. 4, No. 7 [No. 30], May, 1900, pp. 194-196.
8. Land shell collecting on Oahu. <Hawaii's Young People, vol. 4, No. 8 [No. 31], June, 1900, pp. 239-243.
9. Descriptions of new species of Achatinellidæ from the Hawaiian Islands. <Nautilus, vol. 17, 1903, pp. 34-36.
10. Description of new species of Achatinellidæ from the Hawaiian Islands. <Nautilus, vol. 19, 1906, pp. 111-113, 135-138.
11. Descriptions of new species of Achatinellidæ, from the Hawaiian Islands. <Nautilus, vol. 22, 1908, pp. 67-69.

Because of his extensive collecting and generosity in exchange, a considerable number of shells and plants have been

named in his honor. Those which have been found are listed as follows:

ZOOLOGY

Baldwinia Ancey (Section)
Amastra baldwinana Pilsbry
Tornatellaria baldwiniana Cooke & Pilsbry
Achatinella baldwinii Newcomb
Leptachatina baldwini Cooke
Tornatellina baldwini Ancey
Philonesia baldwini Ancey
Endodonta baldwini Ancey
Cecilioides baldwini Ancey
Succinea baldwini Ancey
Helicina baldwini Ancey
Melania baldwini Ancey
Nanina baldwini Ancey
Hyalinia baldwini Ancey
Charopa baldwini Ancey

BOTANY

Asplenium baldwini Hillebrand
Hymenophyllum baldwinii Eaton
Polypidium baldwinii Baker
Leucobryum (Euleucobryum) baldwini Müller
Polytrichum (Aloidella) baldwini Müller
Distichophyllum (?) *reycinettii* var. *baldwinii* Brotherus
Bryum baldwinii Brotherus
Daltoma baldwinii Brotherus
Calymperes baldwinii Brotherus
Bartramia baldwinii Brotherus
Webera baldwinii Brotherus
Fissidens baldwinii Brotherus
Sematophyllum baldwini (C. Müller)
Philonotis baldwinii Brotherus
Neckera baldwini Müller
Hookeria baldwinii Brotherus
Leucoloma baldwinii Brotherus

This list of papers and named specimens, in all probability, is not complete but it does comprise the better known and more accessible things. Therefore, it will indicate the general scope of the man's life and work.

DEPARTMENT REPORTS

DEPARTMENT OF BOTANY

The herbarium at the end of 1930 numbered over 180,000 mounted sheets with many specimens still unmounted. The Department quarters are becoming so crowded that more space is imperatively needed.

Duplicates in exchange have been sent to the following institutions: Arnold Arboretum of Harvard University, 100; Dudley Herbarium, Stanford University, 368; Field Museum, Chicago, 791; Gray Herbarium, Harvard University, 476; Missouri Botanical Garden, St. Louis, 117; New York Botanical Garden, 113; Pomona College, Claremont, 130; Dr. S. F. Blake, Washington, D. C., 133; United States National Herbarium, 68; University of California, 490; University of Montreal, 290.

Specimens have been received in exchange as follows: Arnold Arboretum of Harvard University, 211; Dudley Herbarium, Stanford Uni-

versity, 273; Field Museum, Chicago, 143; Missouri Botanical Garden, St. Louis, 51; Dr. S. F. Blake, Washington, D. C., 42; United States National Herbarium, 105; University of California, 352; University of Montreal, 556.

Specimens have been purchased as follows: Dr. Donat, Patagonia, S. A., 100; Marcus E. Jones, 361 from Mexico and 215 from Arizona; Ines Mexia, 100, Mexico; Mrs. E. C. Van Dyke, 472, western United States; S. Venturi, 328, Argentine, S. A.; Carl Wolf, 961, south-western United States.

Gifts of plants have been received as follows: F. M. Anderson, 10 from Colombia, S. A.; Mrs. J. C. Augsbury, 12 from Indio; Ivan Branson, 26 from Kit Carson Pass; Mrs. W. I. Follett, 11 from Plumas Co.; Cecil Hart, 55 from southern California; Martha Hilend, 14 from southern California; Ralph Hoffmann, 362 from southern California and the Channel Islands; John Thomas Howell, 8217, mostly from California; Mrs. B. R. Jackson, 30 from California; Katherine Jones, 15 native and exotic from California; M. S. Jussel, 440 from the Dardanelles of the Sierra Nevada; David D. Keck, 21 Phacelias from the western States; Isabel T. Kelly, 71 from Modoc Co. and southern Oregon; H. C. Kramer, 38 from Prospect Peak, Lassen Co.; Enid Larson, 11 from Inyo and Mono Cos.; Frank W. Peirson, 90 from southern California and the western States; Mrs. George H. Phelps, 27 from Napa Valley; L. S. Rose, 165 from California; Mrs. E. C. Sutliffe, 39 Hepaticæ; Eric Walther, 475 exotics from Californian gardens.

By exploration, the following collections, not including duplicates for exchange, were made: Alice Eastwood, 187 from Arizona, 144 from California, and 11 from Panama; J. T. Howell, 500 from California.

The Academy herbarium continues to serve all parts of California as a bureau of information on correct plant names in both native and exotic species. The herbarium is being used by loans and reference by research students in many parts of the United States. During the past year 2235 herbarium specimens have been loaned. The following are among those who have arranged loans more recently: Dr. L. H. Bailey, Ithaca, N. Y.; Dr. S. F. Blake, U. S. Bureau of Plant Industry, Washington, D. C.; Dr. C. C. Epling, University of California at Los Angeles; Dr. A. Grant, Missouri Botanical Garden, St. Louis; Mr. Morris Halperin, Division of Agronomy, Davis, California; Miss Martha Hilend, University of California at Los Angeles; C. L. Hitchcock, Missouri Botanical Garden, St. Louis; Dr. David D. Keck, Carnegie Laboratory, Stanford University; Dr. P. A. Rydberg, New York Botanical Garden; Dr. Paul C. Standley, Field Museum, Chicago; Dr. E. E. Stanford, College of the Pacific, Stockton; Miss S. G. Stokes, San Diego.

During the summer the herbarium was thoroughly fumigated with carbon-bisulphide. The collections are in excellent condition and are entirely free from herbarium pests; this noteworthy condition being maintained by annual fumigation of the entire herbarium, by double fumigation of all exchanges, loans, gifts, and purchases, and by constant vigilance.

The curator collected 187 specimens, not including duplicates, on a trip to Arizona at her own expense and as a guest while there of Mrs. Susan Delano McKelvey. It was in March, somewhat too early for flowering plants, but the proper season for ferns. Other short trips were taken to various places in northern California.

In July, the curator, as a voting delegate from the California Academy of Sciences, left to attend the Fifth International Botanical Congress held in Cambridge, England. She attended the sessions of the International Horticultural Congress in London. While in England; some investigations concerning species collected by Archibald Menzies when naturalist on the "Discovery" with Vancouver were made at the Herbarium of the British Museum and the Royal Herbarium at Kew. Visits were made also to the Botanical Gardens at Cambridge, Edinburgh, and Dublin, and several flower shows sponsored by the Royal Horticultural Society, as well as the great late summer flower show at Southport, were attended. In order to attempt to bring stability to the nomenclature of the hybrid fuchsias in cultivation, the curator collected named specimens at various botanic gardens and nurseries. The results will be published later by the American Fuchsia Society. The curator paid her own expenses and also the salary of the extra help needed in the herbarium during her absence, amounting to $1,200.

June 1, Mr. John Thomas Howell became assistant in the Department, and had charge of the herbarium during the absence of the curator, and on January, 1931, he became Assistant Curator of the Department. He has given to the California Academy of Sciences his entire herbarium consisting of over 8000 specimens, many from the deserts of southern California, these being notable additions to the Academy collections. In May, before beginning work, Mr. Howell was the guest of Mr. Frank W. Peirson of Altadena on a profitable collecting trip to the mountains of eastern San Diego Co. and to the western Mojave Desert, Kern Canyon, and Greenhorn Range. On that trip over 450 specimens were collected. During the summer and autumn, 16 week-end collecting trips were arranged by Mr. Howell with friends and made with no expense to the Academy. In this way over 500 specimens as well as numerous duplicates for exchange purposes were collected.

Mrs. George H. Phelps not only mounts all the specimens for the herbarium, but attends to the flower show in the vestibule of the Museum, distributes specimens into the herbarium, and attends to drying all the fresh specimens that are continually coming in. Mrs. E. C. Sutliffe brings specimens for the herbarium and the flower show and looks after the increasing collection of Hepaticæ. Mr. Eric Walther adds continually to the collection of the exotics cultivated in California and also brings in specimens from the park and other gardens for the flower show. His aid is invaluable.

The California Botanical Club holds weekly meetings or excursions during most of the year; and the class of gardeners has been conducted in the herbarium twice monthly except during the absence of the curator.

ALICE EASTWOOD, *Curator.*

DEPARTMENT OF ENTOMOLOGY

The work in the Department of Entomology has progressed along much the same lines as in former years. Less field work was done but more time was put into the arrangement of the collection in the new cases and in mounting material previously received.

Additions to the Department during 1930 number 20,694 specimens. Some of the more important lots that go to make up this total are the following: From Mr. J. O. Martin, 5540 insects taken in field work in Texas and Arizona; from Mrs. Joseph Gunn of Berkeley, a collection of 3300 butterflies made by her son, the late Norman R. Gunn; from Dr. E. C. Van Dyke, 3100 insects exclusive of the Coleoptera, taken on a trip through the Yellowstone and Glacier National Parks; from Mr. T. O. Zschokke, by purchase, 2510 insects from the Panama Canal Zone, an important geographical region but poorly represented in our collections; from Mr. Louis Slevin, 1462 insects, mostly moths, taken about Carmel, California; from Mr. Joseph Slevin, 430 insects taken by him while engaged in field work in Australia; from Mr. E. A. Dodge, 403 Lepidoptera, including a very complete series of western Hesperidæ or "Skippers"; from the Bishop museum of Honolulu through Mr. E. H. Bryan, 275 miscellaneous insects from Pennsylvania; from Dr. P. H. Timberlake, 227 bees, largely paratypes in the genus Perdita; from Dr. H. M. Smith, through Dr. Barton Warren Evermann, 119 insects, mostly butterflies, from Siam, and through field work by the curator, 2073 insects, mostly taken on a short field trip through the "Mother Lode" country in the foothills of the Sierra. Smaller but valuable additions were received from several sources; Mr. Morton Swarth gave us the butterflies taken by him at Atlin, B. C.; Mr. G. F. Knowlton, insects from Utah; Mr. Graham Heid, butterflies from Japan; Mr. E. C. Zimmermann, beetles from Chile; Dr. John A. Comstock, a series of two species of rare moths from southern California; Mr. R. F. Sternitzky, the types of a new Lycaenid described by him; Mrs. M. E. Davidson, insects from Panama; Dr. S. F. Light, insects from Lower California; Dr. F. E. Blaisdell, Mr. Ralph E. Barrett, Mr. E. R. Leach, Mr. W. S. Wright, and Mr. J. R. Strohbeen, insects from California, and Mr. M. C. Van Duzee, insects from western New York.

Mr. J. O. Martin continued to put in most of his time on the classification and arrangement of our large collection of beetles, Dr. F. E. Blaisdell has spent two days a week for most of the year in this same work, and Dr. E. C. Van Dyke has found some time to work here each week. These, with the other students who improve the opportunity for insect study offered by the Academy, have kept the limited desk space in this department more than full most of the time.

The addition during 1930 of twelve more insect cases and 388 of our standard insect drawers has greatly relieved the congested condition of the storage facilities in this department. We now have 576 drawers available for the Coleoptera, 192 for Hemiptera, and 192 for Lepidoptera, and as the arrangement of our material in these three orders

progresses the vacating of the pine cases allows the arrangement of certain groups in other orders of insects.

In anticipation of the possible removal of the Department of Entomology to larger quarters within the present year, it seems worth while to take stock of the collection as of January 1, 1931. Since June, 1916, when the present curator took charge of this Department, a count has been kept of all material added to the collection as it came in. These additions number 672,750 specimens. To this must be added an estimated 20,000 in the collection before June, 1916, and perhaps 235,000 still uncounted and unarranged, in the Van Dyke, Blaisdell, Koebele and Van Duzee collections. This makes a total of about 880,000 specimens now in the collection in this Department.

In addition to the general collection of insects in this Department, fourteen special collections have been received and now form components of the Academy Collection. These total about 525,000 specimens or about two-thirds of the total recorded above. For the proper assorting and arranging of this material we will need nearly 200 of the standard cases used in this department of which we now have about 50. The proposed new rooms for this department have 4000 square feet of floor space. This will give the department space for about 224 insect cases, and for adequate laboratory facilities for 10 years more of normal growth. With these added laboratory facilities it will be possible for the staff to accomplish more and we will be able to do more for the constantly increasing number of visiting students who are using our material.

The fourteen special collections are:

J. G. Grundel Collection of Lepidoptera.....	about 3,000	specimens
W. G. Wright Collection of Lepidoptera.....	about 2,000	specimens
F. X. Williams Collection of Lepidoptera.....	7,662	specimens
E. J. Newcomer Collection of Lepidoptera.....	1,737	specimens
R. H. Stretch Collection of Moths.....	3,141	specimens
E. C. Van Dyke Collection of Coleoptera, estimated as	200,000	specimens
H. M. Holbrook Collection of Butterflies.....	500	specimens
E. P. Van Duzee Collection of Hemiptera, estimated as.	30,000	specimens
F. E. Blaisdell Collection of Coleoptera, estimated as...	125,000	specimens
J. C. Huguenin Collection of Lepidoptera.....	1,870	specimens
Albert Koebele Collection, all orders, estimated as.....	100,000	specimens
L. S. Slevin Collection of Coleoptera.....	22,200	specimens
C. L. Fox Collection of Hymenoptera.....	16,800	specimens
J. O. Martin Collection of Coleoptera.....	11,200	specimens

The California Academy of Sciences now has the largest collection of insects on the West Coast. With the necessary cases and curatorial help it would take its place as one of the most important collections of insects in this country, in fact in several of the insect orders its fine series of western forms must now be consulted by any one attempting to do monographic work on our western species.

EDWARD P. VAN DUZEE, *Curator.*

DEPARTMENT OF EXHIBITS

The entire collection of groups and floor exhibits in the Mammal Hall has been thoroughly overhauled, and a group of Marten *(Martes caurina sierræ)* installed in the last remaining space available for this purpose. Mr. Richard Cayzer, assistant, also spent some months making skins and cleaning skeletons for the Department of Ornithology and Mammalogy. The writer left San Francisco May 27, 1930, for Nairobi, Kenya Colony, Africa, to join Mr. Leslie Simson. A stop was made en route to attend the annual meeting of the American Association of Museums at Buffalo, New York, and another at London, England, to purchase supplies. While there I visited Cardiff, Wales, as the guest of the British Museums Association. I arrived in Nairobi July 30, and left for America November 18. During this period I accompanied Mr. Simson to many parts of Kenya, Tanganyika, and northern Rhodesia, and was successful in securing much needed material for the proposed African mammal halls. This material includes 31 oil sketches for backgrounds, many plaster molds, detail sketches, photographs, and several tons of trees, shrubs, grasses, etc., for use as group accessories. I returned to San Francisco December 25. Other work accomplished by the department has been the care of the specimens of African mammals received from time to time from Mr. Simson. To date these number 122. In addition to Mr. Richard Cayzer, who has been employed thoughout the year, Mr. Cecil Tose has been employed part time since September 1.

FRANK TOSE, *Chief.*

DEPARTMENT OF FISHES

1. *Work with the Indiana University Collection.*

This great collection, estimated to include over 220,000 specimens, is partly stored in cartons containing the bottled material, and partly in tall well glazed crocks with tops that can be sealed on. Of the material in the cartons about half the bottles have been removed, washed, new labels furnished where necessary, and in addition an assistant, who was hired merely to wash bottles, but was also a proficient typist, prepared a card-catalogue of all the specimens handled, indicating the number of the carton to which they were returned, and kept these cards in alphabetic order, so that as far as we have gone, with the exception of a few cartons that had previously been gone over, and the bottles washed and shelved, we know what species are in the collection and in which carton they are to be found. This work will be of great value in subsequent assorting and arranging.

The crock collection has needed looking over, as the contents and their condition is unknown for many of the crocks. A good many have been found to contain unworked material from South America collected by Dr. Carl Ternetz. I have assisted Mr. Myers of Stanford University, to go over as many of these as have been opened, and we have assorted, bottled and added fresh labels to such material as needed it.

2. *Work with Type Material.*

In addition to the types already accumulated, more types keep turning up as the work progresses. Additional shelves were built in the type room, all the types arranged in order, and a card catalogue prepared and arranged. It is desirable to have on each card for a type a reference to the original description. By a search through the literature I have made some progress in this work, which has been laid aside for the present on account of the pressure of routine work.

3. *Work with the General Collection.*

As occasion has required and opportunity permitted, I have gone over the general collection, noting condition and adding alcohol where needed. The crock material needs especially assiduous attention as the crocks used are entirely unsuited to the purpose, the tops having no provision for sealing against evaporation, and the bottoms and sides of some so poorly glazed that liquid oozes through, allowing deterioration to proceed rapidly. An attempt was made to assort, arrange and catalogue the California material. It was necessary to divide this into two lots, one with well-authenticated data, and a mass of material marked "California" but without locality or date, and containing species not to be found within the state. These may never have been intended for the Academy Museum. This catalogue has enabled me to know just what species are needed for the collection, which I am attempting to build up as opportunities occur. The names of specimens in the book-catalogue have most of them been entered in the card catalogue and their location indicated. I am working at this whenever I have opportunity.

4. *Biological Abstracts.*

To this office comes all the manuscript of the part of Biological Abstracts pertaining to ichthyology, to be marked for the printer, and to it are referred all questions pertaining to position of genera, synonyms, and problems of indexing. To answer these requires considerable search through the library. The Biological Abstracts office kindly furnished cards containing every generic name to be found in Jordan's *Genera of Fishes.* To be of use, each of the genera on these cards should have been dated, in order to distinguish synonyms, but this the Abstracts office overlooked. These cards have been arranged in alphabetic order, and I have begun dating them, but this work has been laid aside temporarily on account of the pressure of routine. I am also attempting to keep this index of genera up to date by inserting new cards of a different color.

The generic Catalogue of Jordan had been long outgrown, on account of the immense number of genera described since the year of its publication (1919). All American genera and species encountered have been added to the 1930 Check-list, both in an interleaved copy and its index, where some of the interleaved pages have been over-run, and to the loose sheet edition which has unlimited growth. The assistant librarian kindly turns over to me such exchanges as have to do with fishes, and I have

abstracted as many as time has allowed; many I have not had time to even glance at, although it is important to do so to keep track of present trends and discoveries in ichthyology. The Check-list itself seems to have increased about ⅓ its volume since publication.

H. WALTON CLARK, *Assistant Curator.*

DEPARTMENT OF HERPETOLOGY

The months of January and February, and the first half of March, 1930, were spent completing a season's field work in Australia. This work began in June, 1929, and the states of Queensland, New South Wales, Victoria, South and West Australia, were visited, resulting in a collection of 2577 specimens, many of the genera and most of the species being new to the collection. Excellent series of some of the most unique of the Australian lizards are represented in the collection. Unfortunately, it was found necessary in many cases to limit the series of the various species taken in order to conserve alcohol when far away from a base of supplies.

During the months of May and June, San Diego Co., California, was visited for the purpose of taking motion pictures of our Californian rattlesnakes. About 1000 feet of film has been made up, with instructive titles, depicting the various kinds of rattlesnakes found within the borders of the state, the habitats in which they live, and the method used in extracting the venom for the preparation of antivenin. On this expedition 62 specimens were collected, including some of the rarer snakes of our southern deserts.

While not absent in the field the routine work of the department was carried on as usual and 2829 specimens have been labeled, card catalogued and installed in the collection. The Log of the schooner *Academy* on the expedition to the Galapagos Islands in 1905-1906 has been written up and presented for publication.

Besides the material secured by exploration, gifts of specimens have been received as follows: From L. S. Slevin, 2; Russell V. Fisher, 4; Dr. E. C. Van Dyke, 1; Chas. Hibbard, 1; Dr. Barton Warren Evermann, 1; J. R. Slater, 11; Chas. Barnard, 14; H. Trost, 10; Richard P. Erwin, 2; G. F. Knowlton, 1; Kenneth Johnson, 1; S. B. Davidson, 3; L. M. Klauber, 1. Through Mr. L. M. Klauber 28 rattlesnakes were received by purchase from the Zoological Society of San Diego.

The total number of specimens received during the year is 2719, the collection now numbering 66,722 specimens.

The opportunity to secure the part-time services of Miss Enid Larson for cataloguing the department library was taken advantage of, with the result that the card catalogue of all of the separates and bound volumes has been completed to date.

In connection with the expedition to Australia the thanks of the department are due the curators of the Australian Government Museums, who extended many courtesies, and particularly to Mr. J. R. Kinghorn and Mr. H. S. Grant, of the Australian Museum at Sydney, for much

valuable assistance connected with the details of the field work. Thanks are also due Messrs. Chas. Barnard, James Burns, Ben Chaffey, Chas. Craig, P. C. Allan and many others too numerous to mention.

For the expedition to San Diego County thanks are due Mr. L. M. Klauber, the Zoological Society of San Diego and Mr. L. H. Cook, without whose assistance the rattlesnake film could not have been made.

JOSEPH R. SLEVIN, *Curator.*

DEPARTMENT OF LIBRARY

The principal job of the Academy Library in 1930 turned out to be the completion of the shifting of the bookstock and the making of a temporary shelf-list for all unrecorded titles, a great many of which were discovered during the former process. The time necessary to sort and shelf-list them was so great that, together with the time required to shelve the congested current accumulations, it left none to be devoted to cataloguing proper. On account of this as well, the upper library only could be relabeled.

A handicap in the year's work was the loss early in the year of the clerical assistance which had been given formerly by the Aquarium typist. This loss has proved to more than balance the advantage of having a full-time library assistant in addition to the part-time presence of the assistant librarian, an arrangement which in itself, due to the additional revision of work necessarily involved, was not expected to increase the output of work in proportion to actual time put in.

The chief present need of the Library is additional personnel. The clerical routine required for making and preserving adequate records, such as have been installed during the past two years, is now so large that the present force is severely taxed in carrying both the routine and the technical operations like cataloguing and bibliographical research. The routine can not be neglected, so the more technical work suffers constantly. This situation should be relieved at the earliest possible moment by the addition of clerical assistance.

Accessions for the year were as follows:

	Bd. vols.	Unbd. vols.	Parts of vols.	Pamphlets	Maps
Exchange	53	86	4313	84	184
Gift	17	69	2780	841	7
Purchase	281	90	1251	210	21
Total	351	245	8344	1135	212

This is not counting the large donation of engineering publications from William Hammond Hall, which have not yet been sorted and counted. Binding amounted to 261 volumes bound, rebound or repaired. New exchanges added were 26.

At the first of the year the assistant librarian began the arrangement of being present third-time, due to his undertaking graduate work in bibliography at the University of California. Miss May Peffer, formerly of the Western Union Telegraph Company library in New York, was employed full time as library assistant from the first of January, but unfortunately had to leave early in the month on account of illness. Early in February Miss Veronica J. Sexton, for a number of years an assistant in the Oakland Free Library, was engaged to take Miss Peffer's place. Miss Sexton's training and experience have proved distinctly valuable in the specialized work required in the Academy Library. Robert L. Thompson, Jr., was employed part time for several months the first part of the year to help in rearranging the shelves. Mrs. Barbara Cowles was employed for three weeks in December to sort the maps and to start a catalogue of them.

In June the Special Libraries Association held its national convention in San Francisco. The assistant librarian as president of the local chapter was chairman of the convention committee, and as a member of the Museum Group entertained informally both at the Academy and on trips to other museums in the city such museum librarians as had not attended the regular meeting of the Group held earlier in Buffalo at the convention of the American Association of Museums. The following week the assistant librarian and Miss Sexton attended the meeting of the American Library Association in Los Angeles, in connection with which the annual meeting of the California Library Association was also held.

In the late summer the assistant librarian was appointed to the editorial board of *Special Libraries* and named on a committee of the Museum Group of the national Special Libraries Association formed for the purpose of undertaking a survey of the libraries of art and science museums in this country during the forthcoming year. In September the Academy Library was host to the local chapter of the Special Libraries Association, when the director gave a brief talk on the Academy's history and work and the guests visited the Museum groups, the Library and the Aquarium.

Besides the need for added personnel, which was stressed above as being particularly urgent, there is no lessening of the need for more money for accessions and more space for housing them. It is a consummation devoutly to be wished for that funds may be obtained at no distant date for the construction and endowment of a new library as a unit in the Academy's plans for expansion. No less than new quarters and ample financial support is adequate for the satisfactory functioning which the library must perform in an institution like the Academy, namely: resources for the fundamental research of the staff, for the information and pleasure of the membership, and for the reference use of the community.

THOMAS COWLES, *Assistant Librarian.*

DEPARTMENT OF ORNITHOLOGY AND MAMMALOGY

Work of the department during 1930 has been almost entirely in continuance of activities previously begun. The only field work was inaugurated late in the year, Mrs. Davidson, Assistant Curator, leaving on November 28 on a three months' trip to Chiriqui Province, Panama, for the further exploration of the region she had visited the previous winter.

The Curator's study of the Academy's collection of Galapagos birds reached a point where it seemed essential that he examine the specimens in certain large European Museums, and he was absent on this quest from April 5 to July 8. Most of that time was spent in England, at the British Museum (Natural History), London, and at the Rothschild Museum, Tring; on the way home a short stay was made in Washington, D. C., for similar studies at the United States National Museum. The report upon the avifauna of the Galapagos Archipelago was finished late in the year and the manuscript accepted for publication and turned over to the printer in December.

During the European trip above-mentioned advantage was taken of the opportunity to attend the Seventh International Ornithological Congress, held at Amsterdam, June 1 to 8. The Curator acted as delegate from the Academy and also from the United States Department of Agriculture, the American Ornithologists' Union, and the Cooper Ornithological Club.

Mrs. Davidson's time, as in previous years, has been mainly occupied in the details of office routine. As opportunity offered she has pursued the study of her previous collection of birds from Panama, and the further completion of Mr. Loomis's unfinished "Monograph of the Tubinares."

Mr. Joseph Mailliard, Curator Emeritus, has continued the banding of birds at Woodacre, Marin County, and to a limited extent in Golden Gate Park. In November the Academy published his "Handbook of the Birds of Golden Gate Park," a pocket manual that has been most favorably received and that appears to be filling an expressed need of the amateur bird students of this section.

The Curator and Assistant Curator continue to act as inspectors of foreign birds and mammals for the United States Department of Agriculture. This necessarily takes some time, entailing as it does the examination of all live foreign animals, mostly birds, brought in at the port of San Francisco, but it has proved worth while in several ways. Interesting birds sometimes die, to the enrichment of our collection. During the past year we thus acquired three specimens of the rare Mikado Pheasant, from the island of Formosa, a species that is probably not represented in any other North American Museum.

Accessions during the year were mostly of small lots of specimens, about 600 birds and 400 mammals all told. Mrs. Davidson returned from Panama in January, 1930, with 366 birds, the largest single accession of the year. Mr. G. Frean Morcom, of Los Angeles, who had already given us his entire collection of North American birds, this year

presented us with a series of 92 Hummingbirds, representing about 75 species, mostly from South America and nearly all new to the Academy collection. In view of the lessened field work of our own collectors the opportunity was seized to purchase a collection of 340 mammals from Arizona and southern California, nearly all of species new to our collection, and especially valuable in the inclusion of a large number of topotypes.

The annual meeting of the Cooper Ornithological Club, held in Los Angeles during the first week in April, was attended by all members of the Department of Ornithology, Mr. Mailliard, Mr. Swarth and Mrs. Davidson, as well as by Dr. Barton Warren Evermann. Papers were read by Mr. Swarth and Mrs. Davidson.

The needs of the Department have been indicated in reports for the years immediately preceding and need not be dwelt upon here as there has been no change in conditions.

Details of the accessions are as follows: Birds. *Gift:* Anonymous, 1; A. M. Bailey, 1; Mrs. H. Barkan, 1; C. R. Boatright, 5; D. B. Bull, 1; S. Davidson, 7; Mrs. F. Ellsworth, 1; W. Otto Emerson, 1; Fleishhacker Zoo, 1; E. W. Gifford, 2; Graham Heid, 1; C. W. Hibbard, 2; E. C. Jacot, 2; H. E. Jager, 4; G. A. Jordan, 11; C. E. Kruger, 2; C. C. McGettigan, 5; John McLaren, 3; C. C. Moore, 1; G. Frean Morcom, 92; Mori Bird Company, 2; D. C. Peters, 1; Miss Muriel Pettit, 1; J. H. Pierce, 1; A. L. Reed, 1; A. W. Robison, 1; J. E. Stansfield, 1; J. W. Steinbeck, 8; F. Sterling, 1; H. S. Swarth, 1; Miss A. B. Titus, 1; E. Walther, 1. *Expeditions:* M. E. Davidson, 366. *Purchase:* 34. *Exchange:* 5.

Eggs. *Gift:* J. W. Classen, 1 set; Mrs. William Murphy, 8 sets. *Purchase:* 23 sets.

Mammals. *Gift:* Miss J. Alexander, 1; F. N. Bassett, 7; B. Downes, 1; Dr. G. Dallas Hanna, 1; Hooper Foundation, 1; Horne's Zoological Arena, 1; Joseph Mailliard, 2; John McLaren, 1; K. F. Meyer, 1; Mrs. J. Speck, 1; W. W. Thompson, 1. *Purchase:* 340.

HARRY S. SWARTH, *Curator.*

DEPARTMENT OF PALEONTOLOGY

The personnel of the Department remained practically unchanged from the previous year. Dr. L. G. Hertlein continued as Assistant Curator except for several months which he spent in Alberta in geological exploration for the Hudson's Bay Oil & Gas Company. Dr. F. M. Anderson, as Research Assistant, carried on his studies of the West American Cretaceous without interruption. Mr. J. L. Nicholson, student assistant, spent as much time at the Academy as he had free from his studies at the University of California, and Mrs. Winifred Morrison, temporary assistant, did general clerical work in the Department about half time, throughout the year. The faithful service rendered by all these associates deserves the highest commendation.

May 29, 1931

Through the necessary curtailment of new collections because of lack of adequate storage facilities, exploration was confined to the securing of material urgently needed for studies already being prosecuted. Some very valuable material was added from the Cretaceous through the efforts of Messrs. Anderson, Nicholson and the Curator, and a beautiful collection of fossils of the same age was obtained in Alberta by Dr. Hertlein. Through the kindness of Messrs. Wayne F. Loel and William H. Corey a nice collection of fossils of lower Miocene age has been added to the Academy's collections. Many of these are paratypes and have been placed in the type collection. About 400 species of living marine shells were added from dredging operations conducted near Catalina Island, Point Conception, and Monterey, through the efforts of Mr. Nicholson, Mr. C. C. Church, Mr. Allyn G. Smith, and the Curator. Many of these were small forms, needed for comparative purposes in connection with the series of studies being made of the West Mexican mollusks by Messrs. Baker, Hanna and Strong. Through the efforts of Mr. C. C. Church, the Curator, and other employees of the Associated Oil Company, a very considerable amount of microscopical paleontological material was added during the year. Fortunately, this requires very little space for storage.

The routine work of the Department has consisted in the systematic and orderly arrangement of the collections, always with the conservation of space foremost in mind. At the end of the year the land shell collection had been completed in a very satisfactory manner and much progress had been made with the freshwater and marine shells.

The scientific literature required for the maintenance of a collection so varied in character as that placed in the care of the Department is extremely large, and with the limited funds available for purchase of published papers, no hope can be held for securing all that are needed. Nevertheless, through the constant interest of Dr. Evermann and Mr. Cowles, some extremely useful books and papers were obtained in 1930.

Numerous workers in various parts of the country have made use of the Academy's collections either through borrowing specimens or coming to the building for consultation. A list of all who have thus been helped would be too long to include here, but it may be well to record here those who had not yet returned loaned material at the end of the year.

S. S. Berry, Redlands, California, Chitons. Bryant Walker, Detroit, Michigan, Chinese land shells. Nellie M. Tegland, University of California, Oregon fossils. Fred Baker and A. M. Strong, Gulf of California shells. A. Hollick, New York Botanical Garden, New York, Fossil plant. H. McMillan, Natural History Museum, Stanford University, California, Recent shells. A. G. Smith, Berkeley, California, Land shells. F. E. Turner, University of California, Berkeley, California, Fossil shells. P. Bartsch, National Museum, Washington, D. C., Recent shell.

G. DALLAS HANNA, *Curator.*

DEPARTMENT OF STEINHART AQUARIUM

On December 31, 1930, the number of species and live individuals of each on exhibition in the Aquarium was as follows:

	Specimens	*Species*		*Specimens*	*Species*	
Mammals	11 of	3	as compared with	11 of	3	in 1929
Birds	4 of	3	as compared with	1 of	1	in 1929
Reptiles	209 of	37	as compared with	208 of	33	in 1929
Fishes	9196 of	324	as compared with	9375 of	282	in 1929
Batrachians	47 of	18	as compared with	53 of	9	in 1929
Invertebrates ...	360 of	45	as compared with	41 of	31	in 1929
Total	9827 of	430	as compared with	9689 of	359	in 1929

While this shows some increase both in specimens and species, we call attention to the fact that we have about reached the limit to the number of specimens that can be well exhibited with our present available space.

It is therefore with pleasure that we call attention to the fact that the matter of a substantial addition to the Aquarium has been taken up by President Grunsky with the Board of Supervisors, and we feel confident that with the help of the many friends of the Aquarium the proposition will be brought to the attention of the people and favorable action taken. The need for larger tanks, and additional space for invertebrates, as well as for better located vivariums, is quite evident.

Gifts presented to the Aquarium in 1930 number 1376. A complete list of the donors, together with all matters of detail is presented in the body of the report. The attendance during the year, as usual, has been very satisfactory.

ALVIN SEALE, *Superintendent.*

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7. Necrology, Dr. William Barnes. <Pan-Pacific Entomologist, vol. 7, no. 1, p. 16, September 26, 1930.
8. A New Bedunia. <Pan-Pacific Entomologist, vol. 7, no. 2, p. 64, December 12, 1930.
9. Book Review (Brookings Institution. Service Monograph. No. 60. United States Bureau of Entomology). <Pan-Pacific Entomologist, vol. 7, no. 2, p. 69, December 12, 1930.
10. (Note on) The Norman R. Gunn Collection of Butterflies. <Pan-Pacific Entomologist, vol. 7, no. 2, p. 72, December 12, 1930.
11. Editorial Comment (on stability of Nomenclature). <Pan-Pacific Entomologist, vol. 7, no. 2, p. 96, December 12, 1930.

ACKNOWLEDGMENTS

The number of those who in the past year have donated valuable specimens to the Museum or the Aquarium, or who have assisted the Academy in other ways, has been large. To all who have shown their interest in the Academy in these or other ways, and their appreciation of what the Academy is doing for the public and for science, grateful thanks are given. The research collections in every department have been enriched by the many large and valuable collections which have been received. The educational value and the beauty of the Aquarium

has been enhanced by the many donations of specimens by friends.

Special mention should be made of the courtesies extended to the Academy by the Southern Pacific Company, the Atchison, Topeka and Santa Fe Railway System, the Matson Navigation Company, and the Los Angeles Steamship Company. Each of these companies continues to assist the Academy by supplying reduced transportation to members of the staff when engaged in scientific research in the field.

NEEDS OF THE MUSEUM

The needs of the Museum are many. Perhaps the most important of the urgent needs is that of new buildings. We need more than double the space we now have for our research collections and our research work. Thirty-two large metal herbarium cases, every one filled with specimens of inestimable value, are out in the hall of the second floor of the Research Wing. The departments of entomology, paleontology, and ornithology and mammalogy, are as badly congested; each has much of its research or reference material stored in the basement, placed out in the halls, or in cases stacked so high as to be very difficult of access. The Library is suffering very seriously because of lack of room. It is not possible to arrange the books and pamphlets as they should be, nor is it possible to classify and store our duplicates properly.

The Academy's stock of its own publications (Proceedings and Occasional Papers) now fills the janitor's room in the Research Wing, much of the Check-room, and most of the hall on the lower floor of the Research Wing, a condition intolerable and rendering the proper care and safety of the books impossible.

In addition to all this there are many collections and individual specimens of educational interest stored in the basement where they cannot be made available for display or any other purpose.

The proposed East Wing upon which construction work is expected to begin early this year, will relieve this condition to some extent, as it is the intention to transfer to the new building the departments of Entomology and Ichthyology, and the

Offices of Administration. This will relieve the space now occupied by those departments and make it available for the departments that remain in the West Wing.

The second great need is more room for public exhibition purposes. The third pressing need is a modern up-to-date auditorium.

ACCESSIONS FOR THE YEAR 1930

DEPARTMENT OF BOTANY

Anderson, Frank M., California Academy of Sciences, San Francisco: 10 specimens of plants from Colombia, South America. Gift.

Arnold Arboretum, The, Jamaica Plain, Massachusetts: 211 specimens of trees and shrubs from Kew, England. Exchange.

Augsbury, Mrs. John C., 3799 Washington Street, San Francisco: 12 botanical specimens from Indio, California. Gift.

Branson, Ivan, 1290 Hayes Street, San Francisco: 26 botanical specimens from Kit Carson Pass, California. Gift.

Donat, Dr. Tehuelches—F. C. E., Gob, Santa Cruz, Argentina: 100 botanical specimens from Argentina. Purchase.

Eastwood, Miss Alice, California Academy of Sciences, San Francisco: 187 botanical specimens from Arizona and 144 from California; 11 botanical specimens from Panama. Exploration.

Follett, Mrs. W. I., 157 Ronado Street, Oakland, Calif.: 11 botanical specimens from Plumas County, California. Gift.

Grant, J. M., Marysville, Washington: 29 specimens of plants from Marysville, Washington. Gift.

Hart, Cecil, 132 N. 3rd Street, Montebello, California: 55 botanical specimens from California. Gift.

Hilend, Miss Martha, University of California at Los Angeles: 14 specimens of California plants. Gift.

Hoffmann, Ralph, Santa Barbara Museum, Santa Barbara, California: 276 botanical specimens from the Channel Islands and southern California; 86 specimens of California plants. Gift.

Howell, John Thomas, California Academy of Sciences, San Francisco: 5,310 specimens of California plants; 2,907 specimens of plants for exchange. Gift. 500 specimens of California plants. Exploration.

Jackson, Belle R., San Rafael, California: 30 specimens of California plants. Gift.

Jones, Katherine D., University of California, Berkeley, Calif.: 15 specimens of exotic plants. Gift.

Jones, Marcus, Pomona College, Claremont, Calif.: 561 specimens of western plants. Purchase.

Jussel, M. S., 473 45th Street, Oakland, Calif.: 440 specimens of California plants. Gift.

Keck, David D., Carnegie Laboratory, Stanford University, Calif.: 21 specimens of plants from western states. Gift.

Kelly, Isabel T., Museum of Anthropology, Berkeley, Calif.: 71 specimens of California plants. Gift.

Kramer, A. W., Susanville, California: 38 botanical specimens from Lassen National Park. Gift.

Larson, Enid, California Academy of Sciences, San Francisco: 11 specimens of California plants. Gift.

Mexia, Mrs. Ynez, Berkeley, Calif.: 100 botanical specimens from Mexico. Purchase.

Peirson, Frank M., 1077 New York Avenue, Altadena, California: 90 specimens of California plants. Gift.

Phelps, Mrs. Kate E., California Academy of Sciences, San Francisco: 27 botanical specimens from St. Helena, California. Gift.

Rose, Mrs. C. F., 1444 Chestnut Street, San Francisco: 19 California plants. Gift.

Rose, Lewis S., 2165 Jackson Street, San Francisco: 165 specimens of California plants. Gift.

Sutliffe, Mrs. E. C., 700 Lake Street, San Francisco: 39 specimens of Hepaticæ. Gift.

University of California, Berkeley, California: 352 specimens of California plants. Exchange.

University of Montreal, 1265 Rue Sainte-Denis, Montreal, Canada: 556 specimens of Canadian plants. Exchange.

Van Dyke, Mrs. Edwin C., 2440 Stuart Street, Berkeley, Calif.: 472 specimens from the western states, botanical. Purchase.

Venturi, S., Tucuman, Argentina: 328 botanical specimens from Argentina. Purchase.

Walther, Eric, Golden Gate Park, San Francisco: 475 specimens of exotic plants. Gift.

Wolf, Carl B., Stanford University, Palo Alto, California: 941 botanical specimens from the western states and Mexico. Purchase.

DEPARTMENT OF ENTOMOLOGY

Barrett, Ralph E., Saticoy, Calif.: 162 miscellaneous insects. Gift.

Blaisdell, Dr. F. E., California Academy of Sciences, San Francisco: 72 miscellaneous insects and 3 scientific publications. Gift.

Bryan, Edwin H., Bishop Museum, Honolulu, T. H.: 275 insects from Pennsylvania. Gift.

Comstock, Dr. John A., Los Angeles Museum, Exposition Park, Los Angeles, Calif.: 13 moths (*Lithoprosopus coachellæ* and *Gloveria dolores*). Gift.

Davidson, Mrs. M. E., California Academy of Sciences, San Francisco: 48 miscellaneous insects from Panama. Gift.

Dodge, E. A., Santa Cruz, Calif.: 403 Lepidoptera, including a named series of skippers (Hesperidæ). Gift.

Gunn, Mrs. Joseph, Berkeley, California: A collection of 3,300 butterflies prepared by the late Norman Gunn. Gift.

Heid, Graham, 1239 Bay Street, Alameda, California: 63 butterflies from Japan. Gift.

Knowlton, G. F., Utah Agricultural Experiment Station, Logan, Utah: 98 miscellaneous insects from Utah. Gift.

Light, Dr. S. F., University of California, Berkeley, Calif: 30 miscellaneous insects from Lower California. Gift.

Leach, Mr. E. R., 117 Hillside Avenue, Piedmont, Calif.: 28 miscellaneous insects. Gift.

Martin, J. O., California Academy of Sciences, San Francisco: 5,540 miscellaneous insects from Texas and Arizona. Exploration.

Slevin, Joseph, California Academy of Sciences, San Francisco: 430 miscellaneous insects from Australia. Gift.

Slevin, L. S., Carmel, Calif.: 1032 insects from Carmel, Calif. Gift.

Smith, H. M., Singapore, Siam, through Dr. B. W. Evermann: 119 insects, mostly butterflies from Siam. Gift.

Strohbeen, J. B., Santa Cruz, California: 39 miscellaneous insects from Oregon. Gift.

Swarth, George, California Academy of Sciences, San Francisco: 990 miscellaneous insects, largely butterflies, from Atlin, B. C. Purchase.

Swarth, Morton, California Academy of Sciences, San Francisco: 70 butterflies from Atlin, B. C. Gift.

Timberlake, Dr. P. H., Citrus Experiment Station, Riverside, Calif.: 227 bees, mostly paratypes in genus Perdita. Gift.

Van Duzee, E. P., California Academy of Sciences, San Francisco: 1320 miscellaneous insects from the Sierra foothills; 743 insects from Inyo and Mono counties, California. Exploration.

Van Duzee, M. C., Buffalo, New York: 25 moths from Cattarangus County, New York. Gift.

Van Dyke, Dr. E. C., University of California, Berkeley, California: 2854 insects other than Coleoptera, from Rocky Mountain Region; 248 insects from Sequoia National Park, California. Gift.

Wright, W. S., San Diego Society of Natural History, San Diego, Calif.: 48 miscellaneous insects from San Diego County, Calif. Gift.

Zschokke, T. O., Palo Alto, Calif.: 2510 miscellaneous insects from Panama. Purchase.

Zimmerman, E. C., 9422 Foothill Blvd., Oakland, California: 10 beetles from Pangal, Chili. Gift.

Department of Exhibits

Fleishhacker Zoo, San Francisco: 1 female Chimpanzee. Gift.

Johnson, Mrs. Martin, 651 Alvarado Street, San Francisco: 1 mounted male Japanese Pheasant (*Phasianus versicolor*) and 1 artifact: Head and body of Copper Pheasant (*Phasianus soemmerringi*), tail of Japanese Pheasant (*Phasianus versicolor*). Gift.

McAllister, M. Hall, California Academy of Sciences, San Francisco: 11 mounted specimens, as follows: 1 Wood-duck; 1 California Quail; 1 Mountain Quail; 1 Brant Goose; 1 Sage Hen; 1 Mallard Duck; 1 Deer Head; 4 sets of Deer antlers. Gift.

Stoney, Mrs. George M., 2660 Scott Street, San Francisco, California: 1 mounted head of American Bison. Gift.

Department of Fishes

Anonymous: 1 dried Pinecone Fish (*Monocentrus japonicus*) from Japan. Gift.

Australian Museum, Sydney, Australia: 1 specimen of *Neoceratodus forsteri* Günther. Exchange.

Campbell, Berry, 138 North Poppy Street, Monrovia, California: 4 specimens of *Temeculina orcutti*, from Crystal Lake, Los Angeles County, California. Gift.

Davidson, Mrs. Mary E. McLellan, California Academy of Sciences, San Francisco: 1 shark (*Carcharias lamiella*) from San José de Guatemala, Jan. 17, 1930. Gift.

Gudger, E. W., American Museum of Natural History, New York City, New York: 10 specimens including 7 species of South American fishes. Gift.

Hildebrand, S. F., Beaufort, North Carolina: 1 *Lobotes surinamensis* from Newport River, Beaufort, N. C., and 3 specimens of *Pomatomus saltatrix* from Beaufort Harbor, N. C. Gift.

Laycock, H., Rosario Mines, San Juancito, Honduras: 1 Four-eyed Fish (*Anableps dovii*). Gift.

Reid, J. T., Oroville, Butte County, California: 2 Small-mouth Black Bass (*Micropterus dolomieu*) from Tuttle Lake, Placer County, Calif. Gift.

Rougier, Emmanuel, Christmas Island, South Pacific Ocean: 20 small fishes including 13 species. Gift.

Steinhart Aquarium, San Francisco: 13 specimens of fishes including 12 species. Gift.

United States Bureau of Fisheries, Grand Station, Louisiana: 2 specimens of *Lobates surinamensis* taken about 5 miles off Grand Terre, Louisiana, in open sea. Gift.

DEPARTMENT OF HERPETOLOGY

Barnard, Charles, Queensland, Australia: 11 frogs, 1 lizard, 2 snakes from Queensland, Australia. Gift.

Davidson, S. B., Route 7, Box 635, Ft. Worth, Texas: 1 lizard (*Phrynosoma cornutum*) and 2 toads, spec. ? from Ft. Worth, Texas. Gift.

Erwin, Richard P., Boise, Idaho: 2 Rattlesnakes (*Crotalus c. lutosus*) 15 miles south of Boise. Gift.

Evermann, Dr. Barton Warren, California Academy of Sciences, San Francisco: 1 salamander (*Triturus torosus*) from Papermill Creek, Marin County, California. Gift.

Fisher, Russell, Lake Maxinkuckee, Indiana: 4 Box Turtles (2 *Terrapene ornata* and 2 *Terrapene carolina*), from Lake Maxinkuckee, Indiana. Gift.

Hibbard, Charles W., Steinhart Aquarium, San Francisco: 1 snake (*Crotalus oreganus*), from Coronados Islands, Mexico. Gift.

Hubbe, Mrs. M. S., Millbrae, California: 1 Gopher Snake (*Pituophis catenifer*). Gift.

Johnson, Kenneth, Sacramento, Calif.: 1 Gopher Snake (*Pituophis catenifer catenifer*) from Sacramento, California. Gift.

Klauber, L. M., San Diego, Calif.: 1 lantern slide of Garter Snake; 1 lizard (*Cnemidophorus tessellatus stejnegeri*), from South Coronado Island, Lower California, Mexico. Gift.

Knowlton, G. F., Utah Agricultural Experiment Station, Logan, Utah: 1 lizard (*Uta stansburiana stansburiana*) from Hardup, Utah. Gift.

San Diego Zoological Society (Through L. M. Klauber): 28 Rattlesnakes, from Arizona; 10 *Crotalus c. confluentus;* 12 *Crotalus scutulatus;* 6 *Crotalus atrox.* Purchase.

Slater, J. R., Tacoma, Washington: 2 frogs (*Rana pretiosa*), from Davenport, Wash.; 7 salamanders (*Plethodon intermedius*), from Green Gorge, Pierce County, Washington; 2 salamanders (*Ambystoma paroticum*), from Sol Duc Hot Springs, Clallam Co., Washington. Gift.

Slevin, Joseph, California Academy of Sciences, San Francisco: 10 snakes and 38 lizards from San Diego, Riverside, and Imperial counties, California; 2571 reptiles and batrachians from Australia and 7 lizards from Pago Pago, Samoa. Exploration. 1 salamander (*Ensatina eschscholtzii*) from Carmel, California. Gift.

Sutkamp, Mrs. A. C., San Francisco: 1 Galapagos Island Sea Iguana. Gift.

Trost, H., San Francisco: 10 lizards (*Gerrhonotus caeruleus*), from Camp Meeker, Sonoma Co., California. Gift.

Van Dyke, Dr. E. C., University of California, Berkeley, Calif.: 1 lizard (*Plestiodon skiltonianus*) from Sequoia National Park, California. Gift.

DEPARTMENT OF LIBRARY

Academia Sinica, Shanghai, China: 1 pamphlet: Academia Sinica with its Research Institutes, 1929. Gift.

Adams, Wallace, Philippine Bureau of Science, Manila, P. I.: 1 pamphlet, 1 bound volume, and 27 periodicals. Gift.

American Gas Association, 420 Lexington Ave., New York, N. Y.: 1 copy, Selected Bibliography of Articles on the Industrial Uses of Gas, by C. George Segeler. Gift.

Anderson, Frank M., California Academy of Sciences, San Francisco: 1 pamphlet and 2 unbound volumes on paleontology and 1 serial: Stanford University Bulletin, 5th Ser., No. 98, July 31, 1930. Gift.

Associated Oil Company, 79 New Montgomery Street, San Francisco: 1 geological pamphlet. Gift.

Bailey, L. G., Ithaca, New York: 1 pamphlet: Statements on the Systematic Study of Variables. Gift.

Baker, Frank Collins, University of Illinois, Urbana, Illinois: 7 pamphlets by Frank Collins Baker on paleontology. Gift.

Baldwin, Charles W., Kuahina Drive, Honolulu, Hawaii: 3 pamphlets by D. D. Baldwin on Hawaii, and 2 periodicals: Hawaii's Young People, May, June, 1900. Gift.

Beloit College, Beloit, Wisconsin: 1 calendar: Mural Paintings at the Logan Museum, Beloit College. Gift.

Besuden, Miss H. Dorothy, Librarian, University of Ohio: 1 copy, California Academy of Sciences Proceedings, 3rd Series, Geology, Vol. 1, No. 2. Gift.

California Association of Nurserymen, The, 340 San Pedro Street, Los Angeles, Calif.: 1 volume: Kruckeberg, Henry W.: George Christian Roeding, 1868-1928. Gift.

California State Chamber of Commerce, Ferry Building, San Francisco: 1 pamphlet: A Survey of Economic Research and Sources of Data Regarding California; a reference catalogue and index. Gift.

Canadian National Parks Commission, Ottawa, Canada: 4 pamphlets: Waterton Lakes Park; Banff, Kootenay and Yoho National Parks; Jasper Trails; and Prince Albert National Park. Gift.

Church, C. C., Associated Oil Company, San Francisco: 1 pamphlet: Program, Seventh Annual Meeting of the Pacific Section, Association of Petroleum Geologists, Los Angeles, 1930. Gift.

Clark, H. Walton, California Academy of Sciences, San Francisco: 26 scientific periodicals. Gift.

Cleveland Museum of Natural History, Cleveland, Ohio: 3 pamphlets: Nature Trails in Cleveland, A Bit of Tanganyika, and Episodes of the Amundsen-Ellsworth Arctic Flights. Gift.

Collins, Ross A., 5th District, Mississippi, House of Representatives, Washington, D. C.: 1 separate from the Congressional Record. Gift.

Consorzio Nazionale Produttori Zucchero: 1 pamphlet: Menozzi, Carlo: Insetti Dennosi alla Barbabietola. Gift.

Cornwall, Ira, William Head, Box 850, Victoria, B. C., Canada: 94 copies of California Academy of Sciences Publications. Gift.

Cowles, Thomas, California Academy of Sciences, San Francisco: 1 copy, Special Libraries, Vol. 20, 1929 title page and index; 12 pamphlets; 16 serials on library work, and 31 numbers of periodicals. Gift.

Crocker, C. H., 602 Balfour Building, San Francisco: 1 copy each of California Academy of Sciences Occasional Papers 13 and 14; Proceedings Vol. XV, Nos. 17 and 18; Vol. XVI, Nos. 1-24 and index; Vol. XVIII, Nos. 13-16. Gift.

Davidson, Mrs. M. E., California Academy of Sciences, San Francisco: 69 publications. Gift.

Eastwood, Miss Alice, California Academy of Sciences, San Francisco: 3 pamphlets, 223 periodicals and 42 miscellaneous publications. Gift.

Emergency Conservation Committee, 3548 Tyron Avenue, New York, N. Y.: 1 pamphlet: Quinn, Davis: The Antelope's S. O. S. Oct., 1930. Gift.

Espana-Calpe, S. A., Madrid, Spain: 1 map: Mapa geologica de Espana, por M. Faura y Sans. Gift.

Evermann, Dr. Barton Warren, California Academy of Sciences, San Francisco: 3 pamphlets, 2 periodicals, 342 parts of publications, and 243 separates. Gift.

Exposition Internationale de la Grande Industrie, Sciences et Applications de l'Art Wallon Ancien, Liége, Belgium: 2 pamphlets on the Exposition. Gift.

Felippone, Dr. Florentin, Uruguay, South America: 2 separates: Felippone, F.: Contribution à la Flora Bryologique de l'Uruguay. (Revue Bryologique, 56 année, t. II, fasc. 3-4, 1929); Contribution à la Flora Mycologique de l'Uruguay. (Annales de Crytogamie Exotique, t. I, fasc. 1, 1928). Gift.

Fernald, M. L., 14 Hawthorn Street, Cambridge, Massachusetts: 2 scientific pamphlets. Gift.

Fritzen, Theophil Leonard, 3011 Jackson Street, San Francisco: 159 copies of Proceedings of the California Academy of Sciences, 6 Occasional Papers; 8 pamphlets on National Parks; 1 pamphlet on Camp Sanitation and Housing; 8 indexes to the National Geographic Magazine. Gift.

Geiser, S. W., Southern Methodist University, Dallas, Texas: 1 excerpt: Geiser, S. W.; Pioneer Lies in Unnamed Grave, Dallas Morning News, February 23, 1930, pg. 3. Gift.

Grand Canyon National Park: 3 pamphlets: McKee, Edwin D.: Preliminary Check List of the Mammals of the Grand Canyon, Preliminary Check List of the Birds of the Grand Canyon, and Preliminary Check List of the Reptiles and Amphibians of the Grand Canyon. Gift.

Grunsky, Dr. C. E., President, California Academy of Sciences, San Francisco: 1 pamphlet of the International Mediterranean Research Association of Rome. Gift.

May 29, 1931

Hall, William Hammond, 3855 Jackson Street, San Francisco: 8 boxes of miscellaneous publications on engineering. Gift.

Hanna, Dr. G. Dallas, California Academy of Sciences, San Francisco: 1 bound volume, 8 serials, 2 photostats, 4 maps, 6 parts of volumes, 478 periodicals, 73 pamphlets, and 36 separates. Gift.

Harrison & Sons, Ltd., 44-47 St. Martin's Lane, London, W. C. 2, England: 2 chemical pamphlets. Gift.

Herrera, A. L., Laboratoire d'Analyses Chimiques, Biologiques et Industriels, Ciudad de Mexico: 1 separate: Herrera, A. L.: Sur l'Imitation des Chromosomes, etc. Gift.

Hertlein, Dr. L. G., California Academy of Sciences, San Francisco: 1 pamphlet: General Report on the Properties of the Alberta Pacific Consolidated Oils Limited, 1929; 1 copy, College Algebra, by William Benjamin Fite; 12 miscellaneous pamphlets. Gift.

Industrial Relations, California Department of, Sacramento, Calif.: 1 copy, Labor Laws of the State of California, 1929. Gift.

Kelly, Mrs. G. Earle, Alameda, Calif.: 24 copies of California Academy of Sciences publications. Gift.

Kinsey, Alfred C., Waterman Institute for Scientific Research, Indiana University, Bloomington, Indiana: 1 volume on Gall Wasps. Gift.

Koebele, Mrs. Albert, Waldkirch, Germany: 2 copies of a pamphlet: Fr. V. Koch: Albert Koebele, 1930. Gift.

Lastreto, C. B., 260 California Street, San Francisco: Proceedings, C. A. S., 4th Series, Vol. 17, Nos. 11 and 12, Vol. 18, Nos. 4-16, and 67 pamphlets. Gift.

Lowell Observatory, Flagstaff, Arizona: 1 astronomical pamphlet. Gift.

Mailliard, Joseph, California Academy of Sciences, San Francisco: 1 copy, Bird News, Vol. 1, No. 2 (March-April, 1909); 1 copy, Bird News, Vol. 1, No. 2; 2 numbers of 3rd Series and 31 numbers of the 4th Series of the Proceedings of the California Academy of Sciences; Proceedings of the California Academy of Sciences, 3rd Series, Zoology, Vol. IV, Nos. 4 and 5 (2 copies); 4th Series, Vol. I, pp. 405-430; Vol. II, Pt. I, No. 11; Vol. III, pp. 1-56, 73-264, 391-454; Vol. IV, No. 1-6; Vol. V, No. 1-4, 6; Vol. VI, No. 1-3; Vol. VII, No. 10-11; Vol. IX, No. 6; Vol. X, No. 1-4; 1 copy Birds of Golden Gate Park. Gift.

McAllister, M. Hall, California Academy of Sciences, San Francisco: 1 copy, Official Guide Book to the New York Zoological Park, and 12 miscellaneous pamphlets. Gift.

McGuire, Ignatius, Princeton University, N. J.: 1 separate: Bull. of the Geol. Soc. of Amer., Vol. 41, pp. 181-227.

Merriam, Dr. C. Hart: 1 pamphlet: Merriam, C. Hart: The New River Indians Tlô-hom-tah′-hoi. Gift.

National Research Council, Washington, D. C.: 1 unbound volume. Gift.

Needham, James G., Cornell University, Ithaca, New York: 1 unbound volume: Zoologia Sinica. Series A. Volume 2. Gift.

Nielsen Company, Chicago, Illinois: 1 pamphlet: Nielsen Survey; Armstrong's Cork Machinery Isolation used by Cleveland Museum of Art. Gift.

Oppenheimer, Julius, 1262 Russ Building, San Francisco: California Academy of Sciences Proceedings, Vol. 2, pt. 2, No. 18 (2 copies); Vol. 11, index; Vol. 12, index (2 copies); Vol. 13, No. 27 & 28, index; Vol. 14, No. 1-20 (2 copies of 18, 19, 20); Vol. 15, No. 1-18 (2 copies of 1-11); Vol. 16, No. 1-18, 20-24, index; Vol. 17, No. 1-5, 7-12; Vol. 18, No. 4-12; Occasional Papers 11-12, 14-16; Constitution and By-Laws of Sept. 5, 1925. Gift.

Older, Benjamin, 1262 Russ Building, San Francisco, Calif.: Proc. C. A. S., 4th Series; Index, Vol. 17; Index Vol. 18 and Vol. 18, No. 17; Vol. 19, Nos. 1-10. Gift.

Palmer, Dr. T. S., United States Biological Survey, Washington, D. C.: 1 copy, Officers and Committee of the American Ornithologists' Union, 1930. Gift.

Peers, Susie M., California Academy of Sciences, San Francisco: 241 periodicals: The Business Woman and current issues of Science for 1930; 21 copies of Golden Gate Pathfinder; 1 pamphlet: Deutsches Museum, Munich, Brief guide, official edition; 3 pamphlets; 1 pamphlet: Inauguration of Robert Gordon Sproul as President of the University of California, October 22, 1930, Berkeley; 1 newspaper: The Daily Californian, Berkeley, Calif., Wednesday, Oct. 22, 1930. Gift.

Pennsylvania Geological Survey, Harrisburg, Pennsylvania: 1 pamphlet: The resources of Pennsylvania in a nutshell, prepared by the Penna. Geological Survey. Gift.

Phillips, Mabel E., California Academy of Sciences, San Francisco: 2 pamphlets: The Passion Play at Oberammergau; 1 pamphlet; 3 periodicals; 4 newspapers. Gift.

Riedy, Charles C., 28 Geary Street, San Francisco: 323 separates, 141 parts of volumes, and 11 volumes, all on scientific subjects. Gift.

Rixford, G. P., California Academy of Sciences, San Francisco: 1 copy, The Journal of Heredity, V. 21, No. 3, March, 1930. Gift.

Royal Packet Navigation Company, 444 Market Street, San Francisco: 1 pamphlet on Java. Gift.

Sampson, W. F., 15th Floor, 215 Market Street, San Francisco: California Academy of Sciences Occasional Papers No. 15; Proceedings, Vol. 16, No. 15; Vol. 17, Nos. 1-7, 9-10; Vol. 18, Nos. 4-9, 11, 14-16. Gift.

Savage, Grace O.: 1 pamphlet: Savage, Grace O.: Printed treasures in the library of the United States Naval Observatory. Gift.

Show, S. B., Regional Forester, California Region, Forest Service, Ferry Building, San Francisco: 1 pamphlet: S. B. Show: How the national forests of California benefit the state. (U. S. Agric. Mis. Pub. No. 82) 1930. Gift.

Smith, Gertrude M., Department of Zoology, Univ. of British Columbia, Vancover, B. C.: 1 pamphlet: Detailed Anatomy of Triturus torosus. Gift.

Society of California Pioneers, 5 Pioneer Place, San Francisco: 2 reprints from the Condor; 5 pamphlets pertaining to early history of the Academy; C. A. S. Proceedings, 1st series, 2 nos.; Proc. 2nd series, 5 nos., representing 3 vols.; Proc. 3rd series, Mathematics-Physics, Vol. I, Botany; Vol. II, Nos. 4 and 11, Zoology Vol. I, Nos. 2 and 3, Vol. IV, Nos. 4 and 5, Index to Vol. IV, 3rd Ser. Zoology, Vol. I, No. 1 and Title page and index to Vol. II; parts of 14 volumes of the 4th series of the Proceedings; Occasional Papers Nos. 5, 10, 11; Constitution and By-Laws, 1915, 1921, 1925; Memoriams to Benjamin B. Redding and Dr. Hans H. Behr; 13 old publications of the California Academy of Sciences. Gift.

Southern California Academy of Sciences, Los Angeles, California: 1 pamphlet on Lepidoptera. Gift.

Special Libraries Association, 11 Nisbet Street, Providence, Rhode Island: 1 pamphlet: Special Libraries Association Information Bulletin, No. 5. Gift.

Steinbeck, W. P., Stockton, California: California Academy of Sciences Proceedings, Vol. 12, No. 29, 30; Vol. 15, No. 1; Vol. 17, No. 3; Vol. 18, No. 12. Gift.

Swarth, H. S., California Academy of Sciences, San Francisco: 54 publications on scientific subjects. Gift.

Thompson, Robert L., Jr., 726 11th Avenue, San Francisco: 10 pamphlets on the National Parks. Gift.

Tose, Frank, California Academy of Sciences, San Francisco: 1 copy of Science. Gift.

United Fruit Company, 17 Battery Place, New York, N. Y.: 1 book: The Romance and Rise of the American Tropics, by Samuel Crowther. Gift.

U. S. Bureau of Foreign and Domestic Commerce, San Francisco: 1 unbound volume: Tariff Act of 1930. Gift.

University of California, College of Agriculture, Davis, California: Occasional Papers C. A. S. XIII and XIV, Vol. XI, No. 9; Vol. XIV, No. 1, Vol. XVI, No. 19; Vol. XVII 1, 2, 4, 5-7; Bulletin Dept. of Geology, Univ. of Calif., Vol. 3. Gift.

Vanadium Corporation of America, New York, N. Y.: 1 pamphlet: Petinot, N.: Vanadium additions improve steel. Gift.

Van Duzee, E. P., California Academy of Sciences, San Francisco: 41 scientific publications. Gift.

Van Oosten, John, in charge Great Lakes Fishery Investigations, U. S. Bureau of Fisheries: 1 pamphlet: Some fisheries problems on the Great Lakes, by Dr. John Van Oosten (Reprinted from v. 50, 1929 Trans. of the American Fisheries Society). Gift.

Ward, Rowland, 167 Piccadilly, London, W. 1.: 1 pamphlet: The Orleans natural history trophies. Gift.

Ward, Miss Shirley, 537 Bush Street, Mountain View, California: 35 numbers of California Academy of Sciences, 4th Series, Proceedings, and 4 numbers of the Occasional Papers. Gift.

Willcutt, George B., Market Street Railway Co., San Francisco: California Academy of Sciences Occasional Papers No. 10, Vols. 1 and 2; Proceedings, Vol. 12, No. 3. Gift.

Windele, Annette, American Trust Company, 464 California Street, San Francisco: Occasional Papers No. 11-13; Constitution and By-Laws, 1925; 79 nos. representing 9 vols. of Calif. Academy Sci. Proc. 4th Series. Gift.

Wisconsin Academy of Sciences, Madison, Wisconsin: A large number of California Academy of Sciences Publications comprising numbers of the 2nd, 3rd, and 4th Series of the Proceedings and four Occasional Papers and three issues of the Constitution and By-Laws. Gift.

Yuhasz, Michael, Sr., Homestead, Pennsylvania: 1 pamphlet on Czechoslovakia. Gift.

MISCELLANEOUS

Rixford, G. P., California Academy of Sciences, San Francisco: 1 brick from the Russian Station on Farallon Islands. Gift.

Van Valkenburgh, Peter, 45 Armanino Court, Oakland, California: 1 Indian basket from Lassen County. Gift.

DEPARTMENT OF ORNITHOLOGY AND MAMMALOGY

Alexander, Miss Jacklyn, 1198 Dolores Street, San Francisco: 1 Orsted's Titi Monkey (*Saimiri orstedii orstedii*). Gift.

Anonymous: 1 Ashy Petrel (*Oceanodroma homochroa*). Gift.

Bailey, A. M., Chicago Academy of Sciences, Chicago, Illinois: 1 Goshawk (*Astur gentilis gentilis*) from Germany. Gift.

Bailey, Bernard, San Marcos, California: 340 mammals and 27 birds. Purchase.

Barkan, Mrs. Hans, 3653 Jackson Street, San Francisco: 1 Quetzal (*Pharomachrus mocinno*). Gift.

Barker, Fred, Parker's Prairie, Minnesota: 4 bird skins from Minnesota. Purchase.

Bassett, F. N., 91 Merced Ave., San Francisco: 7 mammals from Sonoma County, California. Gift.

Boatright, C. R., 534 Eleventh Ave., San Francisco: 2 Nicobar Pigeons (*Calœnas nicobarica*), 1 Bob-white (*Colinus virginianus*), 1 Copper Pheasant (*Syrmaticus sœmmerringi*), and 1 Wood Duck (*Aix sponsa*). Aviary specimens. Gift.

Bull, D. B., Bethel, Alaska: 23 sets of eggs and 1 bird skin from Argentina. Purchase.

Classen, J. W., Menlo Park, California: Eggs of Chachalaca (*Ortalis vetula mccalli*), 1/3. From aviary bird. Gift.

Davidson, Mrs. M. E., California Academy of Sciences, San Francisco: 366 bird skins from Panama. Exploration.

Davidson, S., Route 7, Box 635, Ft. Worth, Texas: 7 bird skins from Alameda and San Mateo counties, California. Gift.

Downes, B., Route 5, Box 370A, Watsonville, Calif: 1 Hoary Bat (*Nycteris cinerea*) from Santa Cruz County, California. Gift.

Ellsworth, Mrs. E., Turlock, Calif.: 1 Cobalt Love-bird (*Melopsittacus undulatus*). Gift.

Emerson, W. Otto, Palm Cottage, Hayward, Calif.: 1 White-tailed Kite (*Elanus leucurus*) from Alameda County, California. Gift.

Fishes, Department of, California Academy of Sciences, San Francisco: 1 South American Bat. Transferred to Dept. of Mammalogy.

Fleishhacker Zoo, San Francisco: 1 Cassowary (*Casuarius australis*). Gift.

Gifford, E. W., Museum of Anthropology, University of California, San Francisco: 1 Galapagos Dove (*Nesopelia galapagoensis*); 1 Dove (*Columba maculosa*). Gift.

Hanna, Dr. G. Dallas, California Academy of Sciences, San Francisco: 1 Wild Cat (*Lynx californicus*). Gift.

Hedges, C. F., Coolin, Idaho: 4 Gray Ruffed Grouse (*Bonasa umbellus umbelloides*) from Idaho. Purchase.

Heid, Graham, 1239 Bay Street, Alameda, California: 1 Bronzed Grackle (*Quiscalus quiscula æneus*) from Illinois. Gift.

Hibbard, Charles W., Steinhart Aquarium, San Francisco: 1 Nuttall Sparrow (*Zonotrichia nuttalli*) from San Francisco; 1 Egret (*Casmerodius egretta*) from Glenn County, California; 1 Great Blue Heron, female. Gift.

Holm, A., Redwood City, California: 1 Kangaroo Rat (*Dipodomys heermanni goldmani*); 1 California Shrew Mole from the south arm of Portola Valley, San Mateo County, California. Gift.

Hooper Foundation for Medical Research, Affiliated Colleges, San Francisco: 1 Gibbon (*Hylobatus*, sp. ?). Gift.

Horne's Zoological Arena Co., Altadena, Calif.: 2 Malay Squirrels (*Sciurus erythræus*). Gift.

Jacot, E. C., P. O. Box 462, Prescott, Arizona: 2 Azure Bluebirds (*Sialia sialis fulva*) from Arizona. Gift.

Jager, H. E., 256 Hanover Ave., Oakland, Calif.: 1 Macaw (*Ara macao*), and 3 Tovi Paroquets (*Brotogeris jugularis*), aviary specimens. Gift.

Jordan, G. A., Jordan Game Farm, R. F. D. 1, Woodland, Calif.: 2 Mikado Pheasants (*Syrmaticus mikado*), 2 Cabot's Tragopan (*Tragopan caboti*), 2 Chukars (*Alectoris græca*), 1 Cinereous Tinamou (*Nothoprocta cinerascens*), 1 Peacock Pheasant (*Polyplectron chinquis*), 1 Palawan Peacock Pheasant (*Polyplectron napoleonis*), 1 Copper Pheasant (*Syrmaticus soemmerringi*), and 1 Malayan Crestless Fireback (*Acomus erythrophthalmus*). Aviary specimens. Gift.

Kruger, C. E., Laurel Hill, San Francisco: 1 Dusky Thrush (*Turdus eunomus*), and 1 Wembere Red Bishop Bird (*Euplectes orix wertheri*). Aviary specimens. Gift.

Lithuania, University of, Zoological Museum, Kaunas, Lithuania: 5 bird skins from Lithuania. Exchange.

Mailliard, Joseph, California Academy of Sciences, San Francisco: 3 California Pocket Gophers from Marin County, California. Gift.

McGettigan, C. C., 2644 Filbert Street, San Francisco: 2 Little Brown Cranes (*Megalornis canadensis*) from Kern County, California, and 3 Tule Geese (*Anser albifrons gambelli*) from Colusa County, California. Gift.

McLaren, John, Golden Gate Park, San Francisco: 1 Central California Mole (*Scapanus latimanus latimanus*); 1 Swan; 1 Magpie (*Pica pica hudsonia*); 1 Chukar (*Alectoris græca chukar*); and 1 cygnet (*Olor* sp.). Aviary specimens. Gift.

Meyer, Dr. K. F., Hooper Foundation, University of California, San Francisco: 1 Cotton's Reedbuck (*Redunca redunca cottoni*). Domestic. Gift.

Moore, C. C., 311 Washington Street, San Francisco: 1 California Great Blue Heron (*Ardea herodias hyperonca*) from Santa Cruz County, California. Gift.

Morcom, G. Frean, 243 N. Coronado Street, Los Angeles, California: 92 Hummingbirds from North and South America. Gift.

Mori Bird Company, 94 Golden Gate Avenue, San Francisco: 1 Mikado Pheasant (*Syrmaticus mikado*), and 1 Malayan Crestless Fireback (*Acomus erythrophthalmus*). Aviary specimens. Gift.

Murphy, Mrs. William, 1108 East 14th Street, Alameda, California: 8 eggs of Pallas's Murre (*Uria lomvia arra*) from St. George Island, Pribilof Group. Gift.

Peters, D. C., 315 Central Avenue, North Palo Alto, California: 1 Golden-backed Hanging Parrot (*Loriculus chrysonotus*). Aviary specimen. Gift.

Pettit, Miss Muriel, Girls' High School, San Francisco: 1 Allen's Hummingbird (*Selasphorus alleni*) from San Francisco. Gift.

Pierce, J. H., 1431 Webster Street, Palo Alto, California: 1 Yellow Cardinal (*Gubernatrix cristata*). Aviary specimen. Gift.

Reed, A. L., Tulare, California: 1 Marsh Hawk (*Circus hudsonius*). Gift.

Robison, A. W., 1072 Market Street, San Francisco: 1 Mealy Rosella (*Platycercus pallidiceps*). Aviary specimen. Gift.

Rosenberg, W. H. F., 57 Haverstock Hill, London, England: 1 Pheasant (*Phasianus colchicus*); 1 Imperial Parrot (*Amazona imperialis*); and 1 Dusky Lory (*Eos fuscata*). Purchase.

Speck, Mrs. J., 4217 25th Street, San Francisco: 1 Virginia Opossum (*Didelphis virginiana virginiana*) from Mendocino County, California. Gift.

Stansfield, J. E., Bolinas, California: 1 Horned Owl (*Bubo virginianus pacificus*). Gift.

Steinbeck, J. W., 611 Bristol Avenue, Stockton, California: 3 Peacock Pheasants (*Polyplectron chinquis*); 1 Fireback (*Lophura ignita*); 1 Bar-tailed Cuckoo Dove (*Macropygia unchall*); 1 Bronze-winged Pigeon (*Phaps chalcoptera*); 1 Dove (*Leptoptila wellsi*); and 1 Namaqua Dove (*Aena capensis*). Aviary specimens. Gift.

Sterling, F., 132 Collins Street, San Francisco: 1 Grass Parakeet (*Melopsittacus undulatus*). Gift.

Swarth, H. S., California Academy of Sciences, San Francisco: 1 Nuttall Sparrow (*Zonotrichia nuttalli*) from Alameda County, California. Gift.

Thompson, W. W., Middlefield Road, Redwood City, California: 1 Southern Black-tailed Deer (*Odocoileus columbianus scaphiotus*) from Santa Clara County, California. Gift.

Titus, Miss A. B., Jean Parker School, San Francisco: 1 Burrowing Owl (*Speotyto cunicularia hypogæa*). Gift.

Walther, Eric, Golden Gate Park, San Francisco: 1 Nuttall Sparrow (*Zonotrichia nuttalli*) from San Francisco. Gift.

DEPARTMENT OF PALEONTOLOGY

Anderson, Frank M., and Nicholson, J. L., California Academy of Sciences, San Francisco: About 50 species of cretaceous fossils from Sacramento Valley, California. Exploration.

Baker, Fred, Point Loma, San Diego, Calif.: 7 freshwater shells from Michigan; parts of type lots of two species. Gift.

Chase, Mr. and Mrs. E. P., San Pedro, Calif.: 73 marine shells from Crescent City, California; 5 land shells from Los Angeles County; 2 land shells from Pistol River, Oregon; 11 marine shells from various places in Los Angeles County, California; 4 land shells from Santa Ana Mountains, California. Gift.

Cornwall, Ira, William Head, Box 850, Victoria, B. C., Canada: 2 lots of barnacles and 1 lot of sponges. Gift.

Cory, Dr. W. B., Los Angeles, Calif.: 1 collection of Vaqueros Miocene fossils from type localities. Gift.

Field, Stanley C., 1264 Redondo Blvd., Los Angeles, Calif.: 3 *Micrarionta kelletii* from San Pedro and 5 *Helminthoglypta arrossa* (Semi-albino) from San Mateo Point, California. Gift.

Frizzell, Don L., Seattle, Washington: 4 topotypes of *Paphia restorationensis*, from Puget Sound, Washington. Gift.

Haley, Dr. George, University of San Francisco, San Francisco, Calif.: 6 specimens of rocks from Bogoslof Island, Bering Sea. Gift.

Hanna, Dr. G. Dallas, California Academy of Sciences, San Francisco: 150 land shells from near Clear Lake, California; 300 species of marine shells, 150 species of foraminifera, and 12 samples of Miocene diatomite, all from Catalina Island, California. Exploration.

Hanna, Dr. G. Dallas, Smith, A. G., and Nicholson, J. L., California Academy of Sciences, San Francisco: 125 species of marine shells dredged in Monterey Bay. Exploration.

Heath, Dr. Harold, Hopkins Marine Station, Pacific Grove, Calif.: 500 shells dredged from Carmel Bay, California. Gift.

Hertlein, Dr. L. G., California Academy of Sciences, San Francisco: 3 boxes of cretaceous fossils from Alberta, Canada. Gift.

Hickox, M. E., 1201 Bryant Street, San Francisco: 1 box of marine shells. Gift.

Hubbell, F. C., Des Moines, Iowa, through C. J. Moran, Long Beach, Calif.: 1 Barnacle, (*Conchoderma virgata*) attached to a Copepod (*Penella filosa*), parasitic on a fish, (*Xiphius gladius*), from sea near Long Beach, California. Gift.

Israelsky, Merle C., Louisiana Gas and Fuel Company, Houston, Texas: 3 pieces of Ostracod shale from Brazil. Gift.

Johnston, E. C., Petaluma, Calif.: 20 freshwater shells from Clear Lake, Calif. Gift.

Layer, Herman, Standard Oil Company of Nicaragua, Subway Terminal Building, Los Angeles, California: 1 specimen of Turritella from the Tertiary of Nicaragua. Gift.

Litsey, J. L., Dallas, Texas: 2 fossil Echinoids from Florida. Gift.

O'Shaughnessy, M. M., City Engineer, San Francisco, Calif.: 1 Cretaceous ammonite from Tesla Tunnel, Hetch Hetchy system. Gift.

Pilsbry, Dr. H. A., Philadelphia Academy of Natural Sciences, Philadelphia, Pennsylvania. 4 specimens of a land snail from Otero County, New Mexico; 4 land shells from Arizona. Gift.

Reed, C. R., U. S. S. Arctic, San Francisco: 2 specimens of Schizaster from Puget Sound, Washington. Gift.

Slevin, Joseph, California Academy of Sciences, San Francisco: 30 land shells from Queensland, Australia. Gift.

Smith, A. G., Berkeley, California: 1 Cotype of *Liotia smithi*. Gift.

Stevens, J. B., Fellows, Calif.: 29 Temblor Miocene fossils (bivalves and gastropods). Gift.

Swarth, H. S., California Academy of Sciences, San Francisco: 46 freshwater shells from British Columbia. Gift.

Van Dyke, Dr. E. C., University of California, Berkeley, California: 1 land shell from Big Sur, California; 1 land shell from Sequoia National Park, California. Gift.

Williams, Mrs. M. B., 110 marine and land shells, no localities given; 1 Echinoid (sand dollar); 6 rock specimens (containing pyrite and galena). Gift.

FINANCIAL STATEMENTS

REPORT OF THE TREASURER

For the fiscal year ending December 31, 1930

January 1, 1930, Balance due Crocker First National Bank		$ 884.92
Receipts:		
Dues	$ 3,946.25	
Charles Crocker Scientific Fund Endowment Income	1,758.75	
James Lick Endowment Income	70,781.07	
General Income	20,893.98	
John W. Hendrie Endowment Income	1,646.26	
Post Card Sales	1,167.96	
Publication	630.62	
Interest	1,854.81	
Ignatz Steinhart Trust Interest	286.60	
Bills Receivable	3,000.00	
Duplicate Sales Account	.10	
Great Auk Donation	178.55	
W. G. Wright Fund	10.00	
Park Birds Handbook Fund	1,753.00	
Wild Life Protection Fund	100.00	
Alice Eastwood Donation	568.18	
Total Receipts		$108,576.13
		$107,691.21

REPORT OF THE TREASURER—Continued

Expenditures:

Interest	$ 10,766.79
Contingent Fund	441.03
Salary Expense General	20,199.31
Department Salaries	20,864.79
Earthquake Insurance Sinking Fund	1,200.00
Bills Receivable	25,000.00
Steinhart Aquarium Equipment	79.50
Wild Life Protection Fund	111.25
Insurance	562.30
Park Birds Handbook Fund	1,615.06
Museum Department Appropriations	16,253.12
Post Card Sales	1,043.69
Publication	4,369.70
Library	4,368.02
Sundry Creditors	872.80
Expense	3,172.10
Total Expenditures	$110,919.46

January 1, 1931, Balance due Crocker First National Bank . . . . $ 3,228.25

F. W. BRADLEY, *Treasurer.*

Examined and found correct,

PACE, GORE & MCLAREN, *Certified Public Accountants.*
San Francisco, Calif., February 14, 1931.

INCOME AND OPERATING EXPENSES

For the fiscal year, January 1, 1930, to December 31, 1930

Income:

Charles Crocker Scientific Fund Endowment Income	$ 1,758.75	
James Lick Endowment Income	70,781.07	
General Income	20,893.98	
Dues	4,076.25	
Interest on Temporary Investments	1,854.81	
Profit on Post Card Sales	707.06	
Duplicate Sales Account	.10	
Total Income		$100,072.02

Expenditures:

General Expense	$ 2,893.76	
Salaries	41,686.54	
Interest	10,766.79	
Insurance	562.30	
Total Expenditures		$ 55,909.39
Net Income Transferred to Surplus Account		$ 44,162.63

SUMMARY OF SURPLUS ACCOUNT

December 31, 1930

Balance January 1, 1930		$572,743.64
Additions:		
Net Income for the year ended December 31, 1930	$ 44,162.63	
Donation by Alice Eastwood	1,200.00	
Great Auk Skeleton Donation	178.55	
Total Additions to Surplus		$ 45,541.18
		$618,284.82
Deductions:		
Depreciation	$ 16,353.59	
Transfer to Earthquake Insurance Sinking Fund Reserve	6,400.00	
Total Deductions from Surplus		$ 22,753.59
Surplus, December 31, 1930		$595,531.23

BALANCE SHEET

December 31, 1930

Assets

Property:		
Real Estate, 831-833 Market Street	$600,000.00	
Commercial Building, 833 Market Street	516,818.66	
Real Estate, Jessie Street	8,083.65	
		$1,124,902.31
Museum, Golden Gate Park:		
Building Construction	192,025.92	
General Collections	216,249.99	
Library and Equipment	157,368.58	
Tools and Equipment	49,434.94	
Office Furniture	6,110.04	
		$ 621,189.47
Investment Securities		$ 7,214.52
Ignatz Steinhart Trust:		
Bills Receivable	$ 6,000.00	
Steinhart Aquarium Construction	263,390.29	
Steinhart Aquarium Equipment	34,343.08	
Steinhart Aquarium Revolving Fund	5,000.00	
Uninvested Cash on Hand	178.38	
		$ 308,911.75
Current Assets:		
Bills Receivable	$ 79,000.00	
Postcards in Stock	1,850.33	
Cash on hand	161.36	
Advances to employees doing field work	400.00	
		$ 81,411.69
Total		$2,143,629.74

BALANCE SHEET—Continued

Liabilities

Endowments:		
James Lick Endowment	$804,902.31	
Charles Crocker Scientific Fund Endowment	20,000.00	
John W. Hendrie Endowment	32,770.85	
		$ 857,673.16
Funds Held for Special Purposes:		
Alvord Bequest Botanical	$ 5,000.00	
John W. Hendrie Endowment Income	2,804.11	
Earthquake Insurance Sinking Fund Reserve	7,114.52	
W. G. Wright Fund	42.57	
Park Birds Handbook Fund	118.44	
Wild Life Protection Fund	11.10	
		$ 15,090.74
Reserve for Depreciation		$ 165,956.78
Ignatz Steinhart Trust:		
Principal	$250,000.00	
Interest	58,911.75	
		$ 308,911.75
Notes and Accounts Payable:		
Bills Payable	$195,000.00	
Accounts Payable	2,059.45	
Due Crocker First National Bank (Overdraft)	3,406.63	
		$ 200,466.08
Surplus		$ 595,531.23
Total		$2,143,629.74

SUSIE M. PEERS,
Secretary, Board of Trustees.

We have examined the foregoing Balance Sheet, together with the books and accounts of the California Academy of Sciences, and in our opinion, it is properly drawn up so as to exhibit a true and correct view of the Academy's affairs, as shown by the books.

PACE, GORE & MCLAREN,
Certified Public Accountants.

San Francisco, Calif.,
February 14, 1931.